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Springer
WATERTOWN

TWENTY-SIXTH
ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.
1899

City of Springfield.

TWENTY-SIXTH ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT

FOR THE YEAR 1899.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., December 27, 1899.

To the City Council of the City of Springfield: —

The Board of Water Commissioners herewith submits for your consideration its twenty-sixth annual report, for the fiscal year ending December 10, 1899, including the reports of the Water Registrar and the Superintendent to the Board.

NEW SUPPLY.

The most important matter that has occupied our attention has been the problem of improving the quality of our supply.

During the past season the Ludlow reservoir was emptied, the bed of the same was staked out into squares of one hundred feet each, and the depth of mud was measured on each square.

These measurements show that quite a large area has a depth of mud and other objectionable material of more than twenty feet, and a number of acres have forty feet; while the greatest depth was found to be forty-six and one-half feet.

To remove this vast amount of material would be practically impossible. To cover the bottom of the reservoir with a layer of sand, and divide the reservoir by building a dyke through the center, arranging the intake so that water could be drawn from either pond at will, and so that it could be drawn off from one of the ponds each year, would no doubt improve its quality; but the fact that the limit of the supply would be reached

in from seven to ten years, and the uncertain results following such improvements, together with the large expense of same, led us to consider the advisability of obtaining a new supply.

The west branch of the Swift river was first examined, and it was found that it would require eighteen and one-half miles of pipe to bring this water to the Ludlow gatehouse. While the quality of the water was excellent, we found the quantity for a future supply would be insufficient.

For this and other reasons,— which will be fully stated in our forthcoming special report,— it was deemed best to look elsewhere for a possible supply.

The streams and the ponds in the town of Blandford and its vicinity have been examined, and it was found that but a very small portion of our *present* needs could be obtained from this locality.

The west branch of the Westfield river was found to be badly polluted by the refuse from the manufactories at Middlefield, and by the sewage from Chester and Becket, and would be a dangerous source of supply.

The east branch of the Westfield river, at a point about two miles northeast of the village of Huntington, has every appearance of being all that will be required, both as to quality and quantity.

The watershed of this branch covers an area of upwards of two hundred square miles, and is remarkably free from swamps, manufactories, or other sources of contamination, being probably the largest area of sparsely settled territory in the state and under conditions which reasonably assure us that it will remain so in the future.

The point of taking would be about twenty-two miles from this city. There are no troublesome engineering problems to be encountered, and the question would be simply a matter of cost.

The pipe line would run nearly parallel to the Boston and Albany railroad for about twenty miles, thus greatly reducing the cost of delivery of pipe and other material.

The highway from Huntington to this city furnishes a fine grade, the only elevation of any account to be overcome being at Tatham hill in West Springfield.

Your commissioners have regarded this source with so much favor that they have filed with the Secretary of State a petition to the Legislature, asking for authority to take this as a future source of supply for this city. The bill, if passed, will be permissive, only.

Early last season a petition was sent to the State Board of Health, requesting its advice upon the entire matter of our water supply, embracing the problems of cleaning out the Ludlow reservoir, filtration, and of a new supply.

We also employed Mr. Percy M. Blake, C. E., of Newtonville, Mass., a gentleman of large experience as an expert in the matter of water supply.

As yet we have not received any report from either party, and the conclusions herein set forth are those of your commissioners only.

We would state that these conclusions are not final, but simply represent our views up to the present time.

We expect to receive the reports mentioned during the last of next January, at which time they will be submitted to your honorable body, together with such recommendations as we may then see fit to make.

Your commissioners are deeply conscious of the importance of the entire question, and do not intend to recommend any hasty action.

We think that the quality of our present supply will be greatly improved for at least two years to come, by reason of emptying the reservoir and refilling it with fresh water; thus allowing plenty of time for full and careful investigation.

CONSTRUCTION.

The total amount charged to construction account in 1899 was $32,095.97, including the following principal expenditures,

viz.: $10,069.22 for extending the distribution mains 20,851 feet, making a present total of 143.21 miles in the water works system; for establishing an emergency pumping plant at Five Mile pond — with nearly 2,800 feet of 16-inch discharge and connecting pipe — the sum of $15,825.40; and $3,136.55 for an auxiliary thirty-inch main pipe across the Chicopee river.

The thirty-inch main No. 2 from the Ludlow reservoir to this city crosses the Chicopee river under the bed of the stream, and any breakage or leak in this portion of the pipe would be inaccessible for repairs in time of high water.

For this reason it was deemed wise to place a second pipe in position at this point while the water in the river was low, to guard against any such contingency.

The following statement shows the amount and cost of the extension of distribution mains each year since 1890.

STATEMENT.

(Feet totals are taken from annual tables in Superintendent's report.)

Extensions in	1891,	were 14,927	feet,	cost $10,396.00
"	" 1892,	" 24,853	"	" 16,253.21
"	" 1893,	" 25,079	"	" 17,090.71
"	" 1894,	" 20,280	"	" 13,491.16
"	" 1895,	" 32,368	"	" 25,302.47
"	" 1896,	" 23,521	"	" 21,018.62
"	" 1897,	" 39,108	"	" 22,349.41
"	" 1898,	" 28,810	"	" 16,042.36
"	" 1899,	" 20,851	"	" 10,069.22

MAINTENANCE.

The total amount charged to maintenance account during 1899 was $123,119.85, distributed as follows: —

GENERAL MAINTENANCE.

Management and repairs (operating, etc.), .	$22,667.04	
Interest on bonds, ...	90,750.00	
Taxes on reservoir property, . . .	213.22	
		$113,630.26

SPECIAL MAINTENANCE.

Engineering (mapping, etc.), . . .	$7.12	
Damages (from broken mains, accidents, etc.),	1,433.17	
Pumping station, Chapin pond (operating and care and repairs), . . .	2,525.51	
Pumping station, Five Mile pond (operating and care and repairs), . . .	3,094.70	
Examination of Ludlow reservoir bottom, .	424.31	
Lowering Ludlow main No. 2 in Carew street (account of change in street grade), .	907.06	
Distribution mains — renewals, . .	1,097.72	
		$9,489.59
Total, ...		$123,119.85

The expense for renewing old distribution mains will be seen to have been much less than during the preceding year, while an unusual expenditure of $5,620.21 for pumping a large quantity of water from Chapin pond and Five Mile pond was necessitated in consequence of the emptying of the Ludlow reservoir and the ensuing severe drouth.

The total expenditure for maintenance during the past year, however, has been only $1,888.52 in excess of the total for the preceding year.

The net addition to the number of service connections during the past year is 386, making a total of 9,456 connected to the distribution system.

The following summary shows the total number, and the number of net additions each year since 1884: —

TWENTY-SIXTH
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TO

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We recommend that this balance of $392.27 be transferred to the sinking fund, to which it should naturally revert.

CLAIMS.

The following claims for land damages, caused by diverting the waters of Jabish brook, have been settled during the past year in accordance with jury awards before the Hampshire County Superior Court, viz.: —

Thomas Ferriter (of Belchertown), . .	$188 63
James Garvey (of Belchertown), . . .	431 49
John Garvey (of Palmer), ...	228 48
Michael O'Connor (of Palmer), . . .	359 39

making a total award of $1,207.99, which includes interest from June 1, 1891.

An adjustment outside of the courts has been agreed upon between the Water Commissioners, and Gardner & Gardner, attorneys for the plaintiffs, for the settlement of the following similar claims, viz.: —

Abraham R. Murdock (of Palmer), . .	agreed amount, $100 00
Orrin Slate (of Belchertown), . .	agreed amount, 175 00

This will close all pending claims for land damages, leaving only the claims of the mill owners on the Chicopee river, which cases are still in the courts, no hearing as yet having been held.

DETAILS.

The details of the finances and condition of same, and the work of the department during the year, will be found in the reports of the Water Registrar and of the Superintendent submitted to the board, which reports are hereto annexed, and

which are made a part of the report of the board to the City Council.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
DWIGHT O. GILMORE,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 27, 1899.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 27, 1899.

Read, and concurred.

W. E. GILBERT, *Clerk.*

December 28, 1899.

Presented to the mayor for approval.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE,
SPRINGFIELD, MASS., December 28, 1899.

Approved.

D. O. GILMORE, *Mayor.*

WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:—

GENTLEMEN:—The following report of the Water Registrar for the fiscal year ending December 10, 1899, is herewith respectfully presented:—

For convenient reference the statements given are separated into three principal divisions, viz.:—

1.— General Financial.
2.— Detail Financial.
3.— Miscellaneous.

1.— GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

(Exclusive of Ludlow Main No. 2 Fund.)

To collections paid City Treasurer by City Collector, ...			$235,050 00
By approved bills and pay rolls paid by City Treasurer, as follows:—			
Total pay rolls approved, .	$31,337 16		
Less amounts uncalled for, .	10 67		
Total pay rolls paid, . .	$31,326 49		
Total bills approved and paid,	49,946 46		
		$81,272 95	
By interest on water bonds paid by City Treasurer, ...		90,750 00	
By balance transferred to sinking fund by City Treasurer. . . .		63,027 05	
			$235,050 00

LUDLOW MAIN NO. 2 FUND.

To balance in hands of City Treasurer, December 10, 1898, .	$392 27
By approved bills paid by City Treasurer, 1899, . .	000 00
To balance in hands of City Treasurer, December 10, 1899, .	$392 27

The net cost of construction and maintenance during the year has been charged to the following accounts :—

CONSTRUCTION.

Distribution mains — extensions, . .	$10,069 22	
Hydrant extensions, . . .	139 01	
Gates and valves, ...	199 94	
Standpipes — for street sprinkling, .	202 21	
Meters — extensions (set and maintained at department's expense), . .	30 09	
Water rights, Jabish brook (expenses and settlement of old claims on account of "Ludlow Reservoir Improvement" in 1890 and 1891), . . .	1,697 01	
Pumping station, Five Mile pond — equipment, ...	15,825 40	
Swift river — possible supply, . .	241 24	
Westfield river — possible supply, .	57 04	
Private telephone lines — city (special line between office and collector's office), ...	64 83	
Office improvements — second floor (additional room in rear), . .	558 82	
	$29,084 81	
Less amount credited "Services — permanent pavement account," for services assumed and paid for by consumers,	125 39	
Net total (*exclusive of Ludlow Main No. 2*),		$28,959 42

Brought forward,	$28,959 42
Ludlow Main No. 2 (auxiliary 30-inch main crossing Chicopee river,—cost paid from receipts of the department), . .	3,136 55
Total construction added, . .	$32,095 97

MAINTENANCE.

General: —			
Management and repairs, . .		$22,667 04	
Interest, coupons, . . .		90,750 00	
Taxes, ...		213 22	
			$113,630 26
Special: —			
Engineering (mapping), . .		$7 12	
Damages, ...		1,433 17	
Pumping station, Chapin pond —			
Operating, . .	$2,366 40		
Care and repairs, .	159 11		
		2,525 51	
Pumping station, Five Mile pond —			
Operating, . .	$2,987 75		
Care and repairs, .	106 95		
		3,094 70	
Ludlow reservoir — examination, .		424 31	
Ludlow Main No. 2 — Carew street lowering, ...		907 06	
Distribution mains — renewals, .		1,097 72	
			9,489 59
Total, ...			$123,119 85

COST OF WATER WORKS.

Net total cost, December 10, 1898, . .	$2,083,480 52
Aggregate of construction accounts, 1899, . .	32,095 97
Net total cost of water works to December 10, 1899,	$2,115,576 49

Divided as follows:—		
Balance of *old "Construction" account* in ledger to December 10, 1893 (in future to be analyzed and separated, so far as possible, into its component construction and property accounts),	$1,656,562 98	
Net cost of *Ludlow Main No. 2* to December 10, 1899, . . .	320,955 83	
Aggregate of new construction and property accounts, as classified in ledger and annual reports since 1893, . .	138,057 68	
Total as stated, ...		$2,115,576 49

BONDED DEBT.

(As per Books of City Treasurer.)

850 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows:—		
$25,000 payable each year from April 1, 1900, to April 1, 1902, . .	$75,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
		$850,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875, and all due April 1, 1905, . . .		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920, .		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow Main No. 2, and due as follows:—		
$200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works, December 10, 1899,		$1,525,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1898,		$263,541 36
Balance transferred from water works receipts of 1898,	$69,345 28	
Interest on investments, 1899 (*net*),	7,909 38	
	$77,254 66	
Less amount paid City Treasurer to meet 7 per cent. bonds, due April 1, 1899,	25,000 00	
		52,254 66
Balance in hands of Sinking Fund Commissioners, December 10, 1899,		$315,796 02
Balance available from water works receipts of 1899,		63,027 05
Total amount available December 10, 1899,		$378,823 07

INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1899 (as per report of the Superintendent), is distributed to the following accounts: —

Cast-iron pipe stock,	$9,049 19	
Wrought-iron pipe stock,	1,557 49	
Meter stock,	214 80	
Stores and supplies,	1,262 94	
Tools and machines,	3,129 34	
Office furniture and fixtures,	842 70	
Teams,	1,258 88	
Pumping station, Chapin pond,— operating acct.,	114 20	
Pumping station, Five Mile pond,— operating acct.,	119 25	
Total,		$17,548 79

2.—DETAIL FINANCIAL STATEMENTS.

Receipts.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1898.	Committed During 1899.	Totals.
Water rates—annual,	$1,945 80	$141,848 93	$143,794 73
Water rates—meter,	462 60	63,707 09	64,169 69
Water rates—hose and fountains,	103 00	7,243 15	7,346 15
Water rates—builders,	141 00	1,780 05	1,921 05
Water rates—sprinkling streets,	. . . .	5,379 12	5,379 12
Water rates—miscellaneous,	218 19	714 80	932 99
Total water accounts,	**$2,870 59**	**$220,673 14**	**$223,543 73**
Services and repairs,	$1,163 94	$13,276 51	$14,440 45
Meters and repairs,	197 30	4,328 03	4,525 33
Fines and penalties,	18 00	278 00	296 00
Off and on,	13 71	63 37	77 08
Seals,	. . . .	4 77	4 77
Miscellaneous accts. (sales, etc.),*	253 04	*4,711 69	4,964 73
Total other accounts,	**$1,645 99**	**$22,662 37**	**$24,308 36**
Totals charged 1899,	$4,516 58	$243,335 51	$247,852 09

* The amount charged for "miscellaneous accounts" during 1899, includes the following: —

For rentals of land, offices, etc.,	$1,267 00
For use of horse by sewer department in flushing sewers,	488 25
For shop sales of material, miscellaneous work, etc.,	2,956 44
Total,	$4,711 69

AMOUNTS ABATED TO COLLECTOR, AMOUNTS UNCOLLECTED, AND AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Abated.	Uncollected.	Collected.
Water rates—annual,	$5,972 03	$2,568 82	$135,253 88
Water rates—meter,	478 18	376 57	63,314 94
Water rates—hose and fountains,	156 50	149 00	7,040 65
Water rates—builders,	37 35	450 95	1,432 75
Water rates—sprinkling streets,	. . . .	. . . .	5,379 12
Water rates—miscellaneous,	10 67	282 42	639 90
Total water accounts,	$6,654 73	$3,827 76	$213,061 24
Services and repairs,	$130 48	$1,207 37	$13,102 60
Meters and repairs,	47 90	238 35	4,239 08
Fines and penalties,	24 00	14 00	258 00
Off and on,	2 61	8 39	66 08
Seals,	. . . .	. . . .	4 77
Miscellaneous accounts,	10 00	636 50	4,318 23
Total other accounts,	$214 99	$2,104 61	$21,988 76
Totals, 1899,	$6,869 72	$5,932 37	$235,050 00

RECAPITULATION.

DIVISIONS.	Water Accounts.	Other Accounts.	Totals.
Amounts collected,	$213,061 24	$21,988 76	$235,050 00
Amounts uncollected,	3,827 76	2,104 61	5,932 37
Amounts abated,	6,654 73	214 99	6,869 72
Amounts charged (including balances forward from previous year),	$223,543 73	$24,308 36	$247,852 09

The differences in the *total collection accounts* of 1898 and 1899 are shown as follows: —

COMPARISON: 1898-1899.

	1898.	1899.	DIFFERENCES. 1899.
Amounts collected,	$219,922 00	$235,050 00	$15,128 00
Amounts uncollected,	4,516 58	5,932 37	1,415 79
Amounts abated,	6,582 66	6,869 72	287 06
Amounts charged,	$231,021 24	$247,852 09	$16,830 85

The following table of charges and receipts since 1885 *for water only*, shows the annual growth of the cash income of the department since that date.

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

YEAR.	Water Rates Charged. (During the year only.)		Water Rates Collected.	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	. . .	$90,848 05	. . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890	133,553 28*	7,332 56	129,913 27*	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58

*Amounts for 1890 estimated at $20,000 less than actual totals for that year, which includes 15 months water rates—instead of 12—due to change of time in rendering the semi-annual bills.

INCOME:—VALUE ACCOUNTS.

The amounts entered on the ledger for 1899 are shown as follows:—

USE OF WATER BY THE CITY.

(Charged and credited as shown below.)

Almshouse and annexed buildings,		$376 00
City hall,		43 00
Fire department (buildings),	$614 00	
Fire department (hydrant service), 953 fire hydrants at $20 (amount fixed by city ordinance),	19,060 00	
		19,674 00
Forestry department (buildings),		14 00
Highway department (city yards, etc.),		47 00
Parks (fountains and ponds, $475; hose, $105),		580 00
Amount carried forward,		$20,734 00

Amount brought forward,		$20,734 00
Police department (buildings),		99 50
Scavenger department and Wayfarers' lodge,		74 00
School department (buildings),		6,742 80
Sewer department (flushing), (amount fixed by city ordinance in 1880),		500 00
Watering tanks and drinking fountains, 12 at $50,		600 00
Amount charged (*on ledger only*) to "**City of Springfield — Special Account,**" (NOTE:—CALLED A RESOURCE ACCOUNT IN PARTIAL OFFSET TO LIABILITY ACCOUNTS OF CITY BONDS AND APPROPRIATIONS.)		$28,750 30
Water department (buildings), amount charged (*on ledger only*) to "**Expense,**"		85 00
Total credited (*on ledger as gain account*) to "**Water Rates — City Use**"		$28,835 30

RENTS OF REAL ESTATE.

(*Charged and credited as shown below.*)

Superintendent's house, No. 37 Bridge street (charged to "**Salaries**"),	$300 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "**Teams**"),	300 00	
Keeper's house, Ludlow reservoir (charged to "**Care and Repairs—Ludlow Reservoir**"),	180 00	
Keeper's house, Van Horn reservoir (charged to "**Care and Repairs—Van Horn Reservoir**"),	100 00	
Total credited to "**Rents,**"		880 00
Total, "INCOME: — VALUE ACCOUNTS,"		$29,715 30

Expenditures.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts during 1899: —

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Alderman street,	312 feet,	6 inch,	$143 61
Alfred street,	551 "	6 "	382 07
Atwater terrace,	156 "	6 "	59 03
Beaumont street,	38 "	6 "	39 15
Belgrade place,	150 " 225 "	4 " 6 "	209 21
Berendo avenue,	30 "	6 "	32 97
Birnie avenue,	23 "	6 "	18 78
Boston road,	116 "	6 "	50 63
Brookline avenue,	660 "	6 "	415 56
Carlisle avenue,	96 "	6 "	54 56
Cedar street,	31 "	2 "	11 72
Center street, I. O. (*see renewals, also*),	846 "	6 "	550 00
Cherrelyn avenue,	344 "	6 "	226 65
Clayton avenue,	714 "	6 "	392 48
Coleman street,	204 "	6 "	94 75
Colonial avenue,	850 "	6 "	532 68
Columbus avenue,	308 "	4 "	160 80
Crosby street,	61 "	2 "	12 21
Denver street,	960 "	6 "	458 96
Dickinson street,	1,021 "	6 "	543 21
Dymon street (*see renewals, also*),	525 "	6 "	254 18
Franklin street,	64 "	6 "	36 30
Gunn square, north side,	100 "	1¼ "	25 84
Harriet street,	20 "	6 "	11 09
Howard court (*purchase*), (control of 212 feet given to city),	100 "	1¼ "	22 96
Amount carried forward,			$4,739 10

LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward,			$4,739 40
Hunt terrace,	108 feet, 235 "	1½ inch, 4 "	159 20
Kenwood park,	22 "	6 "	32 11
Leyfred terrace,	593 "	6 "	366 92
Liberty street,	336 "	8 "	237 55
Magnolia terrace,	241 "	6 "	116 75
Malden street,	835 "	6 "	464 74
Noel avenue,	142 "	6 "	105 25
North street,	276 "	6 "	187 96
Oak street, Indian Orchard,	276 "	4 "	128 99
Phœnix avenue,	502 "	6 "	221 84
Prospect street,	46 "	6 "	174 67
Randall avenue,	168 "	4 "	89 18
Revere street,	1,345 "	6 "	684 43
Ridgewood terrace,	233 "	4 "	105 28
Rush avenue,	273 "	1¼ "	39 98
Springfield street, completion of 8″ line,	2,759 "	8 "	1,872 52
Springfield street, north from Gladwood avenue,	182 "	6 "	102 19
State street avenue,	251 "	1½ "	66 93
Ventura avenue,	30 "	6 "	32 98
Wight avenue,	157 "	1½ "	57 68
Worcester street, Indian Orchard,	310 "	2 "	82 67
Total,			$10,069 22

HYDRANT EXTENSION.

(*Not charged to streets.*)

LOCALITY.	COST.	TOTAL.
Setting additional hydrants.		
Armory street, at Wolcott (6″),	$88 52	
Welcome place, at north end (4″),	35 49	
		$124 01
Moving hydrants.		
Walnut street, S. E. cor. State (6″),		*15 00
Total,		$139 01

*Balance of cost charged to maintenance account, "Hydrants — Care and Repairs."

GATES AND VALVES.

(*Not charged to streets.*)

Setting additional gates.

Armory street, at N. Y. and N. E. R. R. bridge, 8″ high,	$36 22
Belgrade place, at end of pipe, 1¼″ high (flush),	8 78
Federal street, near Summer, 8″ high,	34 29
Garfield street, 3″ high (flush),	27 21
James street, near Walnut, 4″ high,	20 66
Summer street, midway Federal and Kibbe avenue, 8″ high,	33 69
Walnut street, near Oak, 8″ high,	39 09
Total,	$199 94

STANDPIPES—FOR STREET SPRINKLING.

Alexander street, near North (E),	$36 32
Garfield street, near Greenleaf (W),	27 13
Hampshire street, near Oak (W), Indian Orchard,	39 95
Magnolia terrace, near No. 77,	27 78
Main street, near Myrtle (E), Indian Orchard,	42 25
Spruceland avenue, near Long Hill street,	28 78
Total,	$202 21

WATER RIGHTS—JABISH BROOK.

(*Settlement of claims on account of "Ludlow Reservoir Improvement" in* 1890 *and* 1891.)

Amounts awarded by jury before the Hampshire County Superior Court, for damages to farm property, as follows:—

	DAMAGES.	COSTS.	TOTAL.
Thomas Ferriter, Belchertown,	$119 33	$69 30	$188 63
James Garvey, Belchertown,	362 19	69 30	431 49
John Garvey, Palmer,	159 18	69 30	228 48
Michael O'Connor, Palmer,	257 79	101 60	359 39
Total award,	$898 49	$309 50	$1,207 99

(*Damages include interest from June 1, 1891.*)

Legal expenses on account of same,	489 02
Total,	$1,697 01

PUMPING STATION, FIVE-MILE POND—EQUIPMENT.

Pumps and boilers (contracts),	$4,805 00
Foundations, connections and installing (including 2,755 feet of 16″ discharge and connecting main),	9,221 27
Smoke-pipe and connections,	703 57
Pump-house building,	494 20
Right of way,	242 59
New intake,	358 77
Total,	$15,825 40

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$8,049 39	
Inspection (salaries and expenses),	3,295 77	
Teams (balance undistributed),	555 49	
Tools and machines (net loss),	463 99	
Stores and supplies (net loss),	221 12	
Office furniture and fixtures (net loss),	87 37	
Stationery and printing,	722 18	
Office account (janitor, supplies, etc.),	501 88	
Heat and light,	298 74	
Expense account,	343 66	
Telephone service,	141 28	
Off and on (services),	298 68	
Refunds,	38 18	
Expense, city departments,	167 03	
Frozen services,	157 27	
Petty maintenance,	1,084 58	
		$16,426 61
Care and repairs, Van Horn reservoirs,	$569 34	
" " Ludlow reservoir,	1,127 64	
" " Belchertown reservoirs,	765 45	
" " Ludlow main No. 1 (24 inch),	98 54	
" " Ludlow main No. 2 (36 inch, etc.),	72 61	
" " Distribution mains, cast iron,	640 68	
" " Distribution mains, wrought iron,	401 11	
" " Gates and valves,	331 03	
" " Hydrants,	377 44	
Amounts carried forward,	$4,383 84	$16,426 61

Amounts brought forward,	$4,383 84	$16,426 61
Care and repairs, Standpipes (for street sprinkling),	200 67	
" " Track hydrants, (" ")	6 80	
" " Drinking fountains, .	12 54	
" " Meters (net), . .	129 73	
" " Services, . . .	1,090 57*	
" " Private telephone lines, .	40 89	
" " Indian Leap Bridge, .	4 75	
		5,869 79
Repairs (real estate), No. 37 Bridge street. .	$139 85	
" " No. 43 Bridge street. .	114 90	
" " Stable, Bridge street, .	2 82	
" " No. 49 Bridge street, .	83 27	
" " House, Van Horn reservoir,	18 22	
" " House, Ludlow reservoir,	11 58	
		370 64
Total, ...		$22,667 04

INTEREST ON BONDS.

$875,000 at 7 per cent., 6 months,† .	$30,625 00†	
$850,000 at 7 per cent., 6 months,† .	29,750 00†	
$200,000 at 6 per cent., 12 months, .	12,000 00	
$125,000 at 3½ per cent., 12 months, .	4,375 00	
$350,000 at 4 per cent., 12 months, .	14,000 00	
Total, ...		$90,750 00

*"CARE AND REPAIRS—SERVICES" may be analyzed as follows :—

Acct. of corporation cocks, leaks, etc., ...	$254 66
" of putting on pump (small pressure).	32 52
" of stoppage by eels, ...	11 55
" of putting new stops inside curb line.	330 08
" of relocating stops, etc., ...	29 84
" of cutting off abandoned services.	50 14
" of reconnecting services.	3 46
" of flushing (poor quality).	3 43
" of repairs of stops, valves, pipe, etc., ...	38 83
" of raising or lowering boxes, and filling holes in street, etc., . .	38 58
" of changing and transferring service connections, ...	265 24
" of changes for new sewers, ...	18 50
" of changes for macadamizing, etc., ...	13 74
Total, ...	$1,090 57

† Twenty-five $1,000-7 per cent. bonds, due and paid April 1, 1899.

TAXES.

On reservoir property at Belchertown: —		
Per acts of 1890, chapter 303,	$52 54	
Per acts of 1893, chapter 352,	10 59	
	$63 13	
Discount returned,	3 08	
		$60 05
On reservoir property at Ludlow: —		
Per acts of 1893, chapter 352,		153 17
Total,		$213 22

DAMAGES.

Cornelius Donohue, 74 Charles street (premises flooded by break in water main) (agreed amount),	$100 00
George E. Sanford, Belchertown (letting off water from his pond, as agreed),	35 00
Michael J. Lynch, Chicopee (personal damages from collision on North Main street) (jury award and costs),	1,298 17
Total,	$1,433 17

PUMPING STATION, CHAPIN POND.

Operating: —		
Fuel, supplies, etc.,	$1,304 48	
Labor (pay roll, engineer, etc.),	1,061 92	
		$2,366 40
Care and Repairs: —		
Material and labor,		159 11
Total,		$2,525 51

PUMPING STATION, FIVE MILE POND.

Operating: —		
Fuel, supplies, etc.,	$2,045 25	
Labor (pay roll, engineer, etc.),	942 50	
		$2,987 75
Care and Repairs: —		
Material and labor,		106 95
Total,		$3,094 70

DISTRIBUTION MAINS — RENEWALS.

(See Superintendent's report for detail of location, etc.)

LOCALITY.	PIPE.	SIZE.	COST.
Center street, Indian Orchard (*see extensions, also*), . .	846 feet,	6 inch,	$110 69
Charles street, . . .	650 "	6 "	599 88
Dymon street (*see extensions, also*), .	525 "	6 "	144 25
Liberty street, . . .	319 "	6 "	242 90
Total, . . .			$1,097 72

3.— MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated and uncollected during 1899, the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unpaid Bills.			
	Due before 1899.	Due in 1899.	For Wastel'n-checked.	Total Number.
Number uncollected, 1898 (forward),	9	. .	0	9
Number charged during 1899, .	0	139	0	139
Total charged collector, 1899, .	9	139	0	148
Number collected during 1899, .	6	123	0	129
Number abated during 1899, . .	1	11	0	12
Number uncollected, 1899 (forward),	2	5	0	7
Total, as above, ...	9	139	0	148

METERS AND INDICATORS.

Total number in use October 1, 1898, . . .		2,727
Number of meters (on service pipes) added (net), .	159	
Number of indicators (on elevators and motors) added (net),	12	
Net total number added to October 1, 1899, .		171
Total number in use October 1, 1899 (see table of same following),		2,898

Total quantity of metered water charged during 1899, ...	386,690,461 gallons
Average quantity charged per meter or indicator,	133,434 "
Total amount charged during 1899, . .	$63,707 09
Average amount charged per meter or indicator, .	$21 98
Average rate charged per 1,000 gallons, . .	16.47 cents

TABLE OF METERS AND INDICATORS.

(*To October 1, 1899.*)

Kind and Size.	½″ or ⅝″	¾″	1″	1	2″	3″	4″	6″	Indicators.	Totals.
Meters.										
Ball & Fitts, Piston		1								1
Crown	935	590	67	15	15	3	1			1,626
Desper	5	1			1					7
Hersey (rotary)	243	301	19	10	8		5	1		587
Hersey (disc)	133	131	8	2	1					275
Nash	65	65	9			1				140
Thomson	8	8	2	1						19
Undine (and Hartford)	2	4								6
Union Duplex	1	1								2
Union Rotary	56	19	2	1	3					81
*Worthington	10	7		2	2					21
										2,765
Indicators.										
Desper (for elevators)									104	133
Desper (" motors)									1	
Friction (" elevators)									2	
Graves (" ")									7	
Ross (" motors)									2	
Whitney (" ")									9	
Whittier (" elevators)									6	
Worthington (" ")									2	
Totals	1,458	1,128	107	31	30	4	6	1	133	2,898

* Errors in previous counts of Worthington meters, corrected.

INSPECTION.

A fourth inspector was added to the force from May first and the work under this head has been distributed since then to better advantage.

A large portion of the city has been covered in the house-to-house inspection, with good results; each one of the ever-increasing number of meters has been visited every month and readings of same taken and recorded; all the numerous vacancies reported for credit have been monthly inspected for re-occupancy, etc.; besides which, much work has been done in other directions as needed during the year,— all of which is best shown under the following classification: —

CLASSIFICATION.	Inspectors. No. 1. Days.	No. 2. Days.	No. 3. Days.	No. 4. Days.	Total number of days.
Reading and inspection of meters	133	140	144	92	509
Turning on and off ⅝ hose	0	3	0	0	3
Inspection of hose use—general	0	11	10	14	35
General or "house-to-house" inspection	0	37	41	51	129
Semi-annual and monthly inspection (billing)	87	5	0	0	92
Monthly inspection of vacancies reported	0	0	60	0	60
Special inspection (leaks, bills, and collections)	0	10	15	15	40
Special inspection (real estate sales)	0	25	0	0	25
Office work	70	59	20	12	161
Sickness, etc.	0	0	0	0	0
Total (290 working days in the year)	290	290	290	184*	1,054

* No. 4 Inspector=from May 1st.

The number of leaking fixtures found on unmetered premises during the year was 691, and in each case a record of same was made and the waste caused to be stopped.

STATISTICS.

Annexed will be found the usual comparative statement showing a classification of consumers supplied at date together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 27, 1899.

BOARD OF WATER COMMISSIONERS, December 27, 1899.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

COMPARATIVE STATEMENT,

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1890, 1898, 1899.

CLASSES.	1864.	1874.	1880.	1890.	1898.	1899.
Bakeries	.....	.....	8	15	33	35
Banks	2	9	12	15	16	16
Barber Shops	2	14	3	30	81	83
Baths	.....	439	829	2,654	7,256	8,075
Beer Pumps	.....	.....	.....	.....	64	65
Boarding Houses	.....	33	55	97	70	73
Breweries	.....	.....	2	2	2	2
Cemeteries	.....	.....	1	5	6	6
Churches (from 1895)	.....	.....	.....	.....	37	37
Churches, Halls, and Public Buildings (to 1895)	2	12	14	60	.....	.....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	.....	33	35
Dyehouses and Bleacheries	2	2	3	3	4	4
Elevators	.....	.....	15	96	139	149
Families	1,288	3,637	4,893	8,511	13,869	14,593
Fish Tanks and Aquariums	.....	.....	.....	8	12	12
Foundries	4	5	6	12	13	13
Fountains (private)	.....	.....	12	18	9	10
Fountains (public)	.....	.....	.....	10	13	13
Gas Works	.....	.....	1	1	1	1
Greenhouses	2	3	9	8	18	21
Halls (from 1895)	.....	.....	.....	.....	44	53
Hose	.....	.....	885	1,857	3,226	3,608
Hotels	7	12	15	20	19	19
Laundries	.....	6	6	25	38	40
Manufactories	6	50	80	78	78	79
Markets	8	31	54	60	95	102
Motors	.....	.....	13	44	63	77
Offices and Rooms	.....	88	521	1,088	1,701	1,704
Parks (from 1895)	.....	.....	.....	.....	13	13
Photographers	.....	6	9	11	10	10
Printers and Publishers	.....	.....	.....	25	24	24
Public Buildings and Institutions (from 1895)	.....	.....	.....	.....	23	24
Public Institutions (to 1895)	.....	.....	.....	6	.....	.....
Railroads	.....	.....	3	4	4	4
Restaurants	5	14	17	24	42	47
Saloons	9	34	32	45	44	44
Schools (total to 1897)	.....	12	15	33	.....	.....
Schools (private) (from 1897)	.....	.....	.....	.....	14	14
Schools (public) (from 1897)	.....	.....	.....	.....	28	31
Shops	18	51	88	189	319	325
Slaughter Houses	.....	.....	.....	1	.....	.....
Stables (private)	82	274	379	704	1,174	1,218
Stables (public)	6	14	23	30	27	29
Steam Engines	.....	.....	48	74	109	110
Steam Heaters	.....	.....	32	104	736	778
Stores	125	225	320	359	613	668
Street Railways (from 1895)	.....	.....	.....	.....	1	1
Urinals	.....	131	296	435	461	498
Water Closets	.....	1,192	2,402	6,792	14,376	15,828
Watering Tanks and Drinking Fountains	.....	.....	.....	12	12	12

SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1899.

Springfield Water Works, Hampden County, Mass.

Population by census of 1895, ... 51,534

(*Estimated by Assessors for* 1899,=61,238.)

Dates of construction : —

Original works in city, by private company, 1864
(Sale of same to city, 1872.)
Works at Ludlow, Mass., . 1873–1874–1875
Works at Belchertown, Mass., . 1890–1891
Additional main from Ludlow reservoir, 1893–1894

By whom owned, ... City of Springfield.

Sources of supply : —

Low pressure — from impounding reservoirs in the city, fed by springs, surface water, and also by the high pressure.

High pressure — from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs, and surface water.

(Aggregate storage capacity, 2,295,792,000 gallons.)

Mode of supply, ... entirely by gravitation.

FINANCIAL.

(NOTE.—All expenditures, including ordinary extensions of mains, etc., are made from general receipts—from water rates, sales, etc. —but the *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1898..			$14,059 85
FROM CONSUMERS (*Division II*):—			
N. Water rates, fixed.....	$144,367 18		
Q. Water rates, meter..... (*Division I.*)	63,314 94		
C. Net receipts for water (from consumers).....	$207,682 12		
D. (Including "U", under construction.) Miscellaneous—(services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"— 18, 19, 20, etc., note).....	21,988 76		
E. Total, 1899.....		$229,670 88	
FROM PUBLIC FUNDS:—			
F. Hydrants, 953 at $20 (*value*).....	$19,060 00*		
G. Fountains, tanks, sewers, etc., (*value*).....	1,680 00*		
H. Street watering (*cash*)....	5,379 12		
I. Public buildings and departments (*value*).	8,095 30*		
J. General appropriations....	00 00		
Total, 1899.....		34,214 42	
FROM REAL ESTATE RENTALS:—			
House rent given employees in part payment for services (*value*)		880 00*	
K. Gross receipts from all sources, 1899 (*cash and value*)			264,765 30
Total available (including material, etc., from previous year)			$278,825 15

EXPENDITURES.

GENERAL ACCOUNT:—			
AA. Management and repairs.	$22,667 04		
BB. Interest on bonds.....	90,750 00		
Taxes on reservoir prop'ty	213 22		
		$113,630 26	
SPECIAL ACCOUNT:—			
Distrib'n mains, renewals	$1,097 72		
Pumping station, Chapin pond (operating and care and repairs).....	2,525 51		
Pumping station, Five Mile pond (ditto).....	3,094 70		
Lowering Ludlow main No. 2 in Carew street...	907 06		
Damages (by leaks, accidents, etc.).....	1,433 17		
Miscellaneous accounts..	431 43		
		9,489 59	
CC. Total maintenance for year.....		$123,119 85	
GG. (Including same under "Construction") Services, meters, repairs, etc. (labor and material charged to consumers, and included in "Receipts" under "D")		14,283 19	
Gross expenditures, 1899.....			$137,403 04
DD. BALANCE divided as follows:—			
Amount used for construction.....		$32,095 97	
Cash available for sinking fund.....		63,027 05	
Value city use of water, charged to City of Springfield.....		28,750 30	
Inventory of materials, tools, etc., on hand Dec. 10, 1899.....		17,548 79	
			141,422 11
EE. Total (in balance with receipts),.....			$278,825 15

* No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

CONSTRUCTION.

RECEIPTS.

R.	Balance from previous year (account "Ludlow Main No. 2")	$392 27
	Amount from maintenance receipts	32,095 97
S.	Bonds issued	00 00
T.	Appropriations from tax levy (see *note* under "Financial")	00 00
U.	Other sources (included with "D" under maintenance receipts)	.....
V.	Total available	$32,488 24

EXPENDITURES.

FF.	Extensions, distribution mains		$10,069 22
GG.	Extension, services (paid for by consumers, see "Maintenance")		.....
HH.	Special: —		
	(*a*) Hydrant extensions	$139 01	
	(*b*) Water rights — Jabish brook (expenses and settlement of old claims on account of "*Ludlow Reservoir Improvement*" in 1890 and 1891)	1,697 01	
	(*c*) Possible new supply	298 28	
	(*d*) Office improvements	558 82	
	(*e*) Chicopee river 30″ auxiliary	3,136 55	
	(*f*) Pumping station, Five Mile pond, —equipment	15,825 40	
	(*g*) Miscellaneous (*net*)	371 68	
			22,026 75
II.	Total construction for year		$32,095 97
JJ.	Balance (account "Ludlow Main No. 2")		392 27
KK.	Total (in balance with receipts)		$32,488 24

GENERAL STATEMENTS.

W.	Net cost of works to date (including $320,055.83, cost of Ludlow Main No. 2),		$2,115,576 49
X.	Bonded debt at this date ($25,000.00 paid from sinking fund for maturing bonds during year),		1,525,000 00
Y.	Value of sinking fund at this date,		378,823 07
Z.	Rate of interest on bonded debt: —		
	7 per cent. on	$850,000 00	
	6 per cent. on	200,000 00	
	4 per cent. on	350,000 00	
	3½ per cent. on	125,000 00	
	Average rate 5.89 per cent. on	$1,525,000 00	

CONSUMPTION.

1.	Total population at date (assessors' estimate).	61,238
2.	Estimated population on lines of pipe at date,	52,000
3.	Estimated population supplied at date,	47,000
4.	Total number gallons consumed for year (estimated).	1,937,055,000 gallons.
5.	(Passed through domestic meters.)	386,690,461 gallons.
6.	(Passed through manufacturing meters.) (or 19.96 per cent.)	
7.	Average daily consumption (estimated).	5,307,000 gallons.
8.	Gallons per day to each inhabitant (estimated) (1).	87
9.	Gallons per day to each consumer (estimated) (3).	113
10.	Gallons per day to each tap (estimated) ("Distribution," 22).	561

DISTRIBUTION.

MAINS.

1.	Kind of pipe used; — wrought-iron, wrought-iron cement-lined, and cast-iron.		
2.	Sizes; — from 1 to 36 inches.		
3.	Extended during year (added to pipe table).		23,369 feet.
4.	Discontinued during year (deducted from pipe table).		6,833 feet.
5.	Total now in use.		143.21 miles.
6.	Cost of repairs per mile.		$8.46
7.	Number of leaks per mile, (Total leaks during year=45)		$\frac{31}{100}$
8.	Small distribution mains,— less than 4 inches in diameter,— total length,		38,593 feet.
9.	Hydrants added during year (public), net.		22
10.	Number of public hydrants now in use.		953
11.	Stop gates added during year (public and private), net.		74
12.	Number of stop gates now in use,		1,837
13.	Small stop gates, less than 4 inches — total.		334
	(a) High service,	223	
	(b) Low service,	111	
14.	Number of blow-off gates,		89
15.	Range of pressure on mains at center for day and night: —		
	(a) High service.		100 to 120 pounds.
	(b) Low service.		30 to 35 pounds.

SERVICES.

16. Kind of pipe used :— wrought-iron (tarred and galvanized) and cast-iron.
17. Sizes from ½ to 6 inches.
18. Extended during year (in feet).
19. Discontinued during year (in feet).
20. Total now in use (in miles).

NOTE.— Services paid for entirely by the consumers, and no special statistics kept of them.

21. Service taps added (net), . . . 386
22. Number of service taps now in use, . . . 9,456
23. Average length of service,
24. Average cost of service,

(See note under 18, 19, 20.)

25. Meters added (including indicators) (net), 171
    (a) Meters added, . . . 159
    (b) Indicators added, . . . 12
26. Number of meters now in use (including indicators), ... 2,898
    (a) Meters (on supply pipes), . . 2,765
    (b) Indicators (on elevators and motors), 133
27. Motors and elevators added (net), . . 24
    (a) Motors added, 17 ; discontinued, 3 ; . . 14
    (b) Elevators added, 11 ; discontinued, 1 ; . 10
28. Number of motors and elevators now in use, 226
    (a) Motors, ... 77
    (b) Elevators, ... 149

SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners :—

GENTLEMEN :—I hereby submit the twenty-sixth annual report of the Superintendent for the year ending November 30, 1899.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE, GATES AND HYDRANTS ADDED.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Feet of Pipe laid—High service,	19,668	948	323	20,939
Feet of Pipe laid—Low service,	1,183	975	0	2,158
Totals laid, 1899, ...	20,851	1,923	323	23,097
Added to tables (account previous years), ...	272	0	0	272
Totals added, 1899, . . .	21,123	1,923	323	23,369
Gates set—High service, . . .	49	8	23	80
Gates set—Low service, . . .	6	2	7	15
Totals set, 1899, ...	55	10	30	95
Added to tables (account previous years).	1	0	2	3
Totals added, 1899, . . .	56	10	32	98
Fire Hydrants set—High service,	20	2	0	22
Fire Hydrants set—Low service,	1	3	0	4
Totals set, 1899.	21	5	0	26
Added to tables (account previous years), ...	1	0	0	1
Totals added, 1899. . . .	22	5	0	27

MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

Number.	Totals.
Feet of Pipe—High service,	1,616
Feet of Pipe—Low service,	5,217
Total, 1899,	6,833
Gates—High service,	13
Gates—Low service,	11
Total, 1899,	24
Fire Hydrants—High service,	2
Fire Hydrants—Low service,	3
Total, 1899,	5

There are now in use 143.21 miles of supply and distribution mains, a net addition of 3.13 miles the past season.

Five hundred eighty-five service taps have been made, a net addition of 386 in use. The total number now connected with the system is 9,456.

RAINFALL.

The table which follows shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory, and the City Engineer's office in this city, during the year ending November 30, 1899.

MONTHS.	Belchertown. Inches.	Ludlow Reservoir. Inches.	U. S. Armory. Inches.	Engineer's Office. Inches.
December, 1898, .	2.14	3.25	3.05	1.82
January, 1899, . .	4.12	2.80	3.20	2.85
February, 1899, .	3.98	4.65	4.42	2.05
March, 1899, . .	6.58	6.52	6.80	5.44
April, 1899, . . .	2.27	2.40	2.37	2.52
May, 1899, . . .	1.38	0.65	1.78	2.08
June, 1899, . . .	5.98	4.10	4.03	4.02
July, 1899, . . .	5.20	5.05	5.37	5.39
August, 1899, . .	1.70	1.49	1.30	1.25
September, 1899, .	4.67	4.24	3.31	3.12
October, 1899, . .	2.33	2.97	2.93	2.73
November, 1899, .	2.76	1.92	1.96	2.03
Totals, ...	43.11	40.04	40.52	35.30
Mean, ...	3.59	3.34	3.38	2.94

MAINTENANCE.

Forty-five leaks have been repaired this season, an average of $\frac{31}{100}$ to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

KIND OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	TOTALS.
Cement-lined,	2	2	4	3	4	0	1	1	0	1	0	0	18
Cast-iron, .	0	1	3	5	1	3	2	5	3	0	3	1	27
Totals. .	2	3	7	8	5	3	3	6	3	1	3	1	45

INVENTORY.

The amount of stock, tools, and fixtures on hand December 1, 1899, was $17,548.79.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates, and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent*

SPRINGFIELD, MASS., December 27, 1899.

BOARD OF WATER COMMISSIONERS, December 27, 1899.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

WATER PIPE LAID AND TAKEN OUT IN 1899.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Length in Feet. Low Service.	Length in Feet. Totals.
Pipe Laid by Private Parties.					
Carew street ave., north from Carew street (S. R.-12,009)	1½	Wrought-iron.	323	....	323
Total wrought-iron laid by private parties	....	.....	323	....	323
Pipe Laid by City.					
Bay street avenue, south from Bay street. (See S. R.-11,664)	1¼	Wrought-iron.	150	....	
Gunn square (north roadway) east from Northampton avenue. (See S. R.-11 512)	1¼	"	100	....	
Howard court, south from Howard street (purchase:—see S. R.-8,662)	1¼	"	....	212	
Rush avenue, south from Berkshire street	1¼	"	273	....	735
Hunt terrace, north from 4th	1½	"	108	....	
State street avenue, north from State street	1½	"	251	....	
Wight avenue, east from 6th	1½	"	....	157	516
Cedar street, extension westerly	2	"	31	....	
Cedar street, error in 1876 total (west from Pine)	2	"	27	....	
Crosby street, extension	2	"	61	....	
Worcester street, I. O., completion from Oak to Pine	2	"	310	....	429
Total wrought-iron laid by city	....	.....	1,311	369	1,680
Belgrade place, west from Walnut st.	4	Cast-iron.	150	....	
Columbus avenue, north from Park avenue	4	"	308	....	
Five mile pond pumping station, for fire hydrant	4	"	25	....	
Hunt terrace, north from Allen st.	4	"	235	....	
HYDRANTS, sundry streets as follows:					
Belgrade place	4	"	8	....	
Center street, I. O.	4	"	17	....	
Denver street	4	"	8	....	
Dymon street	4	"	8	....	
Franklin street	4	"	7	....	
Hunt terrace	4	"	5	....	
Noel avenue	4	"	6	....	
Randall avenue	4	"	9	....	
Westminster street, at Bay	4	"	12	....	
Oak street, I. O., extension to old Bay road	4	"	276	....	

WATER PIPE LAID, ETC., IN 1899—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Randall avenue	4	Cast-iron.	168	....	
Ridgewood terrace, west from Mulberry street (top of hill)	4	"	233	....	
Springfield street, connecting high and low services at hospital (See S. R.-5,547-A)	4	"	9	....	1,484
Alderman street, Berendo avenue to Ventura	6	"	312	....	
Alfred street	6	"	551	....	
Atwater terrace, extension	6	"	156	....	
Beaumont st., completion at Dickinson	6	"	38	....	
Belgrade place, west from 4″	6	"	225	....	
Berendo avenue, completion at Alderman street	6	"	30	....	
Birnie avenue, extension to Alfred street (south)	6	"	23	....	
Boston road, extension to Denver st	6	"	116	....	
Brookline avenue	6	"	....	660	
Carlisle avenue, extension	6	"	96	....	
Center street, I. O., east from Oak, (connecting with 2″)	6	"	846	....	
Charles street, Franklin to Liberty	6	"	....	650	
Cherrelyn ave., south from Phœnix	6	"	344	....	
Clayton avenue, south from Phœnix	6	"	714	....	
Coleman street, extension	6	"	204	....	
Colonial avenue	6	"	850	....	
Crescent terrace (south roadway) at Fort Pleasant avenue (name and lay-out changed from "Oxford street")	6	"	....	...	
Denver street, south from Boston road	6	"	960	....	
Dickinson street, extension, Granada terrace to Kenwood park	6	"	1,021	....	
Douglas street, east from North Main (name changed from "D street")	6	"	....	....	
Dymon street	6	"	525	....	
FIRE RESERVOIRS, sundry streets as follows:—					
Main street, at Hampden-from 12″-(changed from "Main st.")	6	"	....	....	
Franklin street, extension to Charles	6	"	....	64	
Harriet street, completion at North	6	"	....	20	
HYDRANTS, sundry streets, as follows:					
Armory street	6	"	9	....	
Brookline avenue	6	"	....	6	
Charles street	6	"	...	6	
Cherrelyn avenue	6	"	9	....	
Clayton avenue	6	"	9	....	
Colonial avenue	6	"	6	....	
Dickinson street	6	"	10	....	
Leyfred terrace	6	"	5	....	
Malden street	6	"	8	....	
Mill street	6	"	8	....	
Prospect street	6	"	12	...	
Revere street	6	"	6	....	
Springfield street	6	"	8	....	
Walnut street	6	"	6	....	
Kenwood park, completion at Dickinson street	6	"	22	....	
Leyfred terrace, north from Belmont avenue	6	"	593	....	

WATER PIPE LAID, ETC., IN 1899—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Liberty street, Chestnut to Charles	6	Cast-iron.	....	319	
Magnolia terrace, extension to Pineywoods avenue (not before extended, pipe table wrong)	6	"	241	....	
Malden street, Allen to Grand ave.	6	"	835	....	
Murray Hill avenue (name changed in 1898 from "Walker ave") (also 1″)	6	"	....	....	
Noel avenue, extension	6	"	142	....	
North street, Waverley to Harriet	6	"	....	276	
Phœnix avenue, east from Liberty st.	6	"	502	....	
Prospect street, west from Carew	6	"	46	....	
Revere street	6	"	1,345	....	
Springfield street, north from Gladwood avenue	6	"	182	....	
Sumner avenue, at Fort Pleasant (west) (account of 1887 measurement now corrected)	6	"	33	....	
Ventura avenue, completion at Alderman street	6	"	30	....	13,079
Liberty st., Cleveland to Phœnix ave.	8	"	336	....	
Springfield street, near Chestnut to near Crescent, completion	8	"	2,759	....	3,095
Five mile pond pumping station:—					
Suction of small pump	10	"	6	....	6
Outlet of small pump	12	"	15	....	
Suction of small pump	12	"	339	....	
Springfield street, Armory to Gladwood avenue (153 feet hitherto wrongly included in "Armory st., Van Horn reservoir to Springfield street"—account 1895)	12	"	....	....	354
Five mile pond pumping station:—					
Discharge line connecting pumps with Ludlow Main No. 1	16	"	2,755	....	2,755
Suction of large pump	20	"	293	....	293
Ludlow Main No. 2, auxiliary main, crossing Chicopee river	30	"	300	....	300
Total cast-iron laid by city			19,365	2,001	21,366
Total wrought-iron laid by city (forward)			1,311	369	1,680
Total wrought-iron laid by private parties (forward)			323	....	323
Total amount added, 1899			20,999	2,370	23,369
Pipe Taken Out or Abandoned.					
Webster street, north from Liberty (See S. R.-7,102, etc.)	1	Wrought-iron.	262	....	262
State street, west from 6″ (west of Water)—(account of 1896)	1¼	"	....	31	
Wight avenue, east from 6″(P) (S. R.-8,173)	1¼	"	....	209	240
Center street, I. O., west from 2″	1½	"	52	....	52
Center street, I. O., east from Oak	2	"	359	....	
Dymon street	2	"	475	....	
Lexington avenue (north side) east from Chestnut street (P) (S. R.-4,548)	2	"	....	323	

WATER PIPE LAID, ETC., IN 1899—CONCLUDED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Liberty street, west from Chestnut (P)—(S. R.-4,909) (not used since 1889, and cut off in 1896)	2	Wrought-iron.	212	....	
North street, north from Calhoun (table, "from Jefferson avenue" *but wrong*)—(P) (S. R.-7,324)—*now is private service only*)	2	"	....	208	
State street, west from 4″ (west of Water) (P)—(S. R.-5,795,-5,918)—(account of 1895)	2	"	244	....	1,821
Charles street, south from Franklin	3	Cement-lined.	....	287	287
Charles street, north from Liberty	4	"	....	324	
HYDRANTS, sundry streets as follows: Westminster st., at Bay (actually cement-lined,—called cast-iron in previous tables)	4	Cast-iron.	12	....	336
"D" street, east from North Main (name changed to "Douglas")	6	"	....	....	
Liberty street, Chestnut to Charles	6	Cement-lined.	....	319	
Lombard reservoir—to Armory st. (abandoned with reservoir in 1893)	6	"	....	2,137	
Main street at Hampden (from 12″, for fire reservoir) (changed to "Fire Reservoirs")	6	Cast-iron.	....	....	
Oxford street, east from Fort Pleasant avenue (name and lay-out changed some time ago to "Crescent terrace")	6	"	....	....	
Spring street, north from Worthington	6	Cement-lined.	....	154	
Walker avenue (name changed in 1898 to "Murray Hill avenue") (also 1″)	6	Cast-iron.	....	....	2,610
Boston & Albany R. R. line of,—(balance of old line east from Armory street to site of former pump-house near Lombard reservoir:—line and reservoir not used since 1893)	8	"	....	1,225	1,225
Armory street, Van Horn reservoir to Springfield street,—(153 feet wrongly included in total of 2,584 feet, but actually in "Springfield st., Armory to Gladwood avenue")—(account 1895)	12	"	....	....	
Total amount taken out or abandoned, 1899			1,616	5,217	6,833
Net addition to tables, 1899			19,383	- 2,847	16,536

MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1899.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st	6	....	....	....	940	
do. Plainfield st. to Fisk ave	6	....	....	....	719	1,659
Acushnet ave., east from Main st	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Wilbraham ave	6	....	....	2,253	....	
do. Wilbraham ave. to 4″ at Hickory st.	8	....	....	421	....	
do. at Hickory (west)	4	....	....	4	....	2,678
Alderman st., Berendo ave. to Ventura	6	....	....	312	....	312
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st	6	....	...	....	762	762
Alfred st	6	....	....	551	....	551
Allen ave., no. from Allen st. (P)(S. R.-9,209).	2	200	....	....	....	
do. north from private pipe	2	86	....	....	....	286
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487	....	5,417
Allendale st	6	....	....	....	707	707
Amherst st	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st.,	6	....	....	....	457	457
Arch st., North Main to east line of Conn. River R. R. location	6	....	....	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	...	
do. from 8″ to near Summer st	1	81	....	..	....	
do. north from 8″ (for S. R.-10,661)	2	92	....	....	...	
do. Summer to Van Horn reservoir	8	....	...	5,571	....	
do. Van Horn reservoir to Springfield st.	12	....	...	2,431	....	9,813
Armory st. ave., east from Armory st	6	....	....	520	....	520
Armory st. court, south from Armory st. ave.	6	....	....	266	....	266
Ashley st	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Atwater terrace, west from Rimmon ave	6	....	....	660	....	660
Auburn st	6	....	....	....	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. at Maple st	6	....	....	....	57	
do east from 6″ at Maple st	4	....	380	....	....	
do. east from cement-lined	4	....	....	....	416	853
Bancroft st., North Main to 8″ at Chestnut.	6	....	....	....	1,511	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st. (P) (S. R. -5,495)	1¼	....	193	....	....	193
Bay st., St. James ave. to Thompson st	8	1,275	....	....	....	
do. Thompson to Oak Grove cemetery	8	....	...	3,793	....	5,068

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bay st. ave., south from Bay st. (see S. R.-11,664)	1¼	150	....	....	....	150
Beacon st., Eastern ave. to Colton st	6	....	....	374	....	
do east from Colton	2	129	....	....	....	503
Beaudry st., I. O., south from Main	6	....	....	498	....	
do. south from 6″ (P) (S. R.-10,768)	1	310	....	....	....	808
Beaumont st	6	....	....	726	....	726
Beech st	6	....	....	560	....	560
Beechwood ave., Sumner to Spruceland	6	....	....	565	....	565
Belgrade place, west from Walnut st	4	....	....	150	....	
do. west from 4″	6	....	....	225	....	375
Bellevue avenue (original location)	8	....	....	1,728	....	1,728
Belmont ave., Fort Pleasant to Sumner	8	....	....	5,383	....	
do. Sumner to Forest	8	....	....	42	....	5,425
Benton ave., east from Benton st	6	....	....	15	....	
do. east from 6″	2	358	....	....	....	397
Benton st., State to 6″	4	....	....	1,175	....	
do. from 4″ to Wilbraham road	6	....	....	418	....	1,533
Berendo ave	6	....	....	419	....	419
Berkeley st., Princeton to Monmouth	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir, "Main No. 1")	24	—	....	...	....	
do. Myrtle to Oak	6	....	....	703	....	703
Beverly st	6	....	....	252	....	252
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st	6	....	....	....	168	
do. Douglas st. to Thomas	6	....	....	....	302	753
do. Wason to Grace st	8	....	....	726	....	
do. south from Grace st	8	....	....	12	....	
do. Alfred st. to Douglas st	6	....	....	304	...	
do. south from Douglas st	6	....	....	176	....	1,218
Bliss st., Main to railroad	6	....	....	....	1,287	
do. railroad to Mechanics Row	2	....	93	....	....	1,380
Bloomfield st., west from Earl	6	....	....	265	....	
do. west from Pasadena ave	6	....	...	22	....	287
Bond pl., so. from Bridge st. (P) (S. R.-6,033)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6″	4	....	....	183	....	201
Boston ave., south from Boston road (P) (S. R.-8,171)	1¼	172	....	....	....	172
Boston road (Jasper st. to Denver)	6	....	....	573	....	573
Bowdoin st., St. James ave. to Worth'ton st.	4	....	....	1,202	....	
do. Worthington to Ingersoll grove	6	....	....	833	....	2,035
Bowles st., Catharine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st	6	....	....	....	934	934
Brace st	6	....	....	378	....	378
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	...	67
Bridge st., Water to Chestnut	6	....	....	...	1,921	1,921
do. Water to Main	6	....	....	873	....	
do. east from Main	6	....	....	211	....	
do. east from Dwight	6	....	....	135	....	
Brightwood ave, west from Plainfield st	6	....	....	...	176	176

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Broad st., west from Main	8	....	1,001	....	....	
do. from 8″ to Hanover	4	....	....	....	52	1,053
Brookline ave	6	...	....	....	660	660
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	...	....	
do. from cement-lined to Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham place	1½	338	....	....	....	338
Buena Vista Plaza, west from Long Hill st. (P.) (S. R.-10,533)	2	423	....	....	....	423
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6″	4	...	....	....	346	1,515
do. crossing to Everett (proposed st.)	4	...	....	....	197	197
Byers st.	6	1,452	....	....		1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	1,115
do. east from North Main	6	...	....	16	....	16
Cambridge st.	6	....	....	1,601	....	1,601
Carew place, north from Carew st	4	....	....	....	166	166
Carew st., Main to North	16	....	875	....	....	
do. at North (east)	16	....	....	....	5	
do. from 16″ at North (east) to Chestnut	8	....	....	....	799	
do. Chestnut to Arbor	6	....	....	....	951	2,630
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	—	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	....	—	....	
do. west from Armory (P) (S. R.-4,869)	1½	559	....	....	....	
do. east from Armory	6	....	....	11	....	589
Carew st. ave., north from Carew st. (P) (S. R.-12,009)	1½	323	....	....	....	323
Carlisle ave., south from Wilbraham road	6	....	....	692	....	692
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	628	....	628
Catharine st., State to Dartmouth	12	....	....	1,961	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. Pine to opposite No. 15	2	390	....	....	....	1,644
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	6	....	....	846	....	
do. from 6″ to Cedar	2	360	....	....	....	1,206
Central st., east from Main	4	....	....	....	482	
do. from 4″ to 6″ cast-iron at Maple	6	....	937	....	....	
do. at Maple (west)	6	....	....	....	22	1,441
do. Maple to Mill	8	....	....	4,035	....	4,035
Central st. ave., Central st. to Foster court	6	....	....	292	....	292
Chapel st., east from Eastern ave	6	....	....	365	....	365
Chapin pond, pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239
Charles st., Franklin to Liberty	6	....	....	....	650	650
do. south from Liberty	4	....	....	204	....	204
Charter ave., west from Oak st	2	370	....	....	....	370
Chase ave., east from Fort Pleasant	6	....	....	622	....	622
Cherrelyn ave., south from Phœnix	6	....	....	344	....	344

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Cherry st., south from Central	6	....	....	1,130	....	1,130
Cherryvale ave	6	....	....	731	....	731
Chester st., south from Central (P) (S. R.-6,931)	2	246	....	....	....	
do. south from 2″ (P) (S. R.-6,931)	1¼	39	....	....	....	285
Chestnut st., brook to 20″ cast-iron at Jefferson ave	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. East Taylor to Edwards	6	....	....	....	1,363	
do. south from Edwards	3	....	208	....	....	
do. from 3″ to State	4	....	625	....	....	8,786
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	26	....	
do. Carew to 12″ near Worth'ton (north)	16	....	....	3,185	....	
do. from 16″ to Worthington	12	....	....	63	....	
do. Worthington to Harrison ave	12	....	....	873	....	
do. Harrison ave to 6″	8	....	....	644	....	
do. from 8″ to State st	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Chicopee Falls road, Ludlow, west from 30″ main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave., south from Pynchon st	4	....	....	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Clayton ave., south from Phœnix	6	....	....	714	....	714
Cleveland st	6	....	....	1,105	....	1,105
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st	4	....	....	504	....	504
Cliftwood ave	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
Clyde st., west from Plainfield	6	....	....	....	316	316
Coleman st., south from Boston road	6	....	....	856	....	856
College ave., State st. to Shattuck ave	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colonial ave.	6	....	....	850	....	850
Colton st., Wilbraham road to Beacon st	6	....	....	1,680	....	1,680
Columbia terrace, north from Liberty st	6	....	....	246	....	246
Columbus ave., north from Park ave	4	....	....	308	....	308
Commonwealth ave., Walden st. to beyond Washington	6	....	....	1,326	....	1,326
Concord st., south from Rimmon ave	2	295	....	....	....	295
Concord terrace, no. from Wilbraham road	2	202	....	....	....	202
Congress st., Main to 4″, near Chestnut	6	....	....	....	1,533	
do. from 6″ to Chestnut	4	....	....	....	60	1,593
Conn. River R. R., east line of location to east line of Plainfield st. (under tracks, connecting Arch and Washburn sts)	6	....	....	....	226	226
Continental ave., south from Sumner	6	....	....	390	....	390

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Cook's ave., Bridge st. to North Church ave.	4	....	....	....	126	126
Cornell place, north from Cornell st.	1¼	106	....	....	....	106
Cornell st.	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck ave.	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P) (S. R.-7,681-8,916)	1¼	169	....	....	....	
do. Walnut st. to Melrose	6	....	....	286	....	
do. north and thence east from Melrose st.	6	....	....	422	....	957
Court st., Main to 8″ at Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Crescent st., north from Springfield	6	....	....	384	....	384
Crescent terrace (south roadway) at Fort Pleasant ave.	6	....	....	26	....	26
Crosby st., west from Walnut	2	306	....	....	....	306
Cross st., west from Willow	1¼	....	142	....	....	
do. at Willow (east)	6	....	....	12	....	
do. from 6″ to Maple st	4	....	....	605	....	759
Crystal ave.	6	....	....	937	....	937
Cypress ave., at Cypress st.	4	....	....	....	9	
do. north from 4″ at Cypress st.	3	....	210	....	....	219
Cypress st.	6	....	....	....	720	720
do.	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave.	12	....	....	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	....	....	479	....	479
Davis st., Ludlow, south from Stebbins	1¼	237	....	....	....	237
Dawes st.	6	....	....	1,250	....	1,250
Dawson ave.	2	401	....	....	....	401
Demond ave.	6	...	....	....	922	922
do. at Fisk ave	6	....	....	2	....	2
Denver st., south from Boston road	6	....	....	960	....	960
Dexter st., George to Knox (P) (S. R.-5,322)	2	719	....	....	....	719
Dickinson st., Oakland to Johnson	6	....	....	163	....	
do. at Johnson (or Parker ave.), east	6	....	....	15	....	
do. Kenwood park to Sumner ave.	6	....	....	1,612	....	1,790
Donald st., at North Main	6	....	....	13	....	13
Dorchester st.	6	....	....	620	....	620
Douglas st., Birnie ave. to North Main	6	....	...	582	....	
do. east from North Main	6	....	....	561	....	1,143
Dresden ave.	6	....	....	805	....	805
Dwight st., State to Worthington	6	....	....	....	1,851	
do. crossing sewer at Worthington (north)	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8″ crossing sewer at Worthington, north)	10	....	....	2,322	....	
do. crossing sewer at Worthington (north)	8	....	....	28	....	2,350
Dymon st.	6	....	....	525	....	525
Eagle st., North Main to Chestnut	6	....	....	596	....	596
Earl st., Johnson to Bloomfield	2	299	....	....	....	299
East Court st.	4	....	....	584	....	584
Eastern ave., in State st., at 24″ main	8	....	....	18	....	
do. from gate at State st. 24″ main to Tyler st.	12	....	....	1,568	....	
do. Tyler street to Pendleton ave.	12	350	....	....	....	
do. Pendleton ave. to Melrose st.	8	....	....	2,509	....	4,445

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
East Hooker st., east from North Main	6	....	....	....	361	361
do. east from North Main	4	....	....	14	....	14
Edgeland ave., west from Fort Pleasant	6	....	...	488	....	488
Edwards st	4	....	....	....	737	737
Elliott st	6	....	....	....	1,103	1,103
Elm st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	15	
do. west from Water (P) (S. R.-5,748)	1¼	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	....	....	....	810	810
Emery st	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to 6″ cast-iron near Chestnut	6	....	1,625	....	....	
do. from 6″ cement lined to Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,440	...	1,440
Euclid ave	6	...	....	1,163	....	1,163
Everett st., east from Chestnut	6	....	....	....	46	
do. east from 6″	4	....	1,204	....	....	
do. from 4″ cement-lined to Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,602
Fairbanks ave., north from Worthington st.	4	....	....	....	261	261
Fairfield st., north from Garfield	6	....	....	934	....	934
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry street, east from Main	6	....	....	....	30	
do. east from 6″	4	....	459	....	....	
do. from 4″ to Chestnut	6	....	....	...	1,083	1,572
Fire reservoirs, sundry streets	4	....	....	....	31	
do. sundry streets	6	....	....	....	86	117
Firglade ave., Sumner to Pineywoods	6	....	....	1,050		1,050
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12″ Grace st. line	8	....	.. .	205	....	941
Five Mile pond pumping station:—						
Suction for small pump	10	....	....	6	....	
" " " "	12	....	....	339	....	
Discharge for small pump	12	....	....	15	....	
Suction for large pump	20	....	....	293	....	
Discharge line, connecting pumps with Ludlow Main No. 1	16	....	....	2,755	...	
For fire hydrant at pump house	4	....	....	25	....	3,433
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. from 2″ to Walnut	1	88	....	....	....	1,966
Florentine gardens	6	....	....	594	....	594
Florida street, Bay to 6″ cast-iron at Worthington (south)	6	1,520	....	....	....	
do. at Worthington (south)	6	....	....	14	....	
do. Worthington to Ingersoll grove	6	....	....	850	....	2,384
Forest ave., Belmont to Walden st	6	....	....	752	..	752
Forest park, from Sumner ave. (P) (S. R.-9,099)	6	....	....	2,610	....	
do. for hydrants (P) (S. R.-9,099)	4	.. .	....	30	....	2,640
Forest st	6	....	....	843	..	843
Fort st	6	....	....	....	715	715
do. west from Main (P) (S. R.-6,490)	4	....	....	76	....	76

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Fort Pleasant ave., Mill st. to junction Belmont ave	12	....	....	167	....	
do. Belmont to Sumner	8	....	....	2,755	....	2,922
Foster court	6	....	....	762	....	762
Franklin st., Main to Charles	6	....	....	....	1,893	
do. east from Charles	1¼	....	131	....	....	2,024
do. Main to Chestnut	8	....	....	1,583	....	
do. west from Cass	6	....	....	514	....	
do. east from Cass (P) (S. R.-6,651)	1¼	128	....	....	....	
do. east from Webster	6	....	....	83	....	
do. near Webster (east) (connecting 6″ and 2″)	1	4	....	....	....	
do. from 6″ to Liberty	2	1,340	....	....	....	3,652
Fremont st	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner ave	8	....	....	329	....	329
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12″	8	....	399	....	....	
do. west from 8″	6	....	150	....	....	
do. from 6″ to Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st	8	....	....	189	....	189
Garfield st	6	....	....	1,544	....	1,544
Genesee st., at Franklin	1¼	38	....	....	....	
do. north from 1¼″	6	....	....	194	....	232
George st., south from Pine (P) (S. R.-4,979)	2	354	....	....	....	
do. from private 2″ to Maple	2	336	....	....	....	690
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave., crossing to Fisk ave	12	....	....	390	....	1,080
Granada terrace	6	....	....	1,189	....	1,189
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6″	4	....	221	....	....	
do. from 4″ to Emery st	6	....	....	....	14	593
Greene st., Hancock to Eastern ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. from 6″ to Chestnut	4	....	....	....	337	1,608
Grosvenor st	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do at North Main (east and west)	6	....	....	32	....	32
Grover st	6	....	....	1,380	....	1,380
Gunn's square (north roadway) east from Northampton ave. (see S. R.-11,512)	1¼	100	....	....	....	
do. (south roadway) east from Northampton ave	1¼	142	....	....	....	242
Hall st	6	....	....	997	....	997
Hampden st, at Main	12	....	....	....	28	
do. from cast-iron to Water	12	....	672	....	....	700
do. Main to Water	8	....	....	660	....	660

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
ampden st., I. O., Chestnut to Myrtle	4	750	....	....	....	
do. Myrtle to 6″	4	....	....	662	....	
do. from 4″ to Oak st.	6	....	....	35	....	1,447
Hampshire street, I. O	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	....	
do. Florence to Central	6	....	....	1,126	....	
do. at Central (south)	8	....	....	3	....	
do. south from 8″ at Central	4	....	....	225	....	
do. south from 4″	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	513	513
do. Gardner to York (see note)	8	....	....	789	....	789
(NOTE:—Emergency connection at York st. with 6″ low service main in that st)						
Harriet st., Chestnut to North	6	....	....	....	410	410
Harris road, Ludlow, north from North st.	6	....	....	1,763	....	1,763
Harrison ave., Main st. to Dwight	6	....	....	...	649	649
do. Main st. to Chestnut	12	....	....	895	...	
do. east from Main st. (for Republican block)	6	....	....	25	....	
do. west from Dwight (short line)	6	....	...	173	....	1,093
Harvard st., Yale to Cornell	6	...	....	1,663	....	1,663
Hawley st	6	515	....	...	....	515
Hawthorn place, Sumner ave. to Park ave.	6	....	....	851	....	851
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hayden ave	4	....	....	1,095	....	1,095
Hebron st., North to Chestnut	6	...	....	....	746	746
Heywood ave., south from Liberty st. (P) (S. R.-6,720)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. Walnut st. main to Walnut st. east line	6	125	....	....	....	
do. Walnut st. east line to Alden	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. at Woodbine ave. (east)	4	....	....	11	....	
do. east from 4″ at Woodbine ave	3	799	....	....	....	
do. from 3″ to Carlisle branch (east)	1¼	1,501	....	....	....	
do. east from 1¼″	1	13	....	...	....	6,100
High st., Maple to School	6	....	....	807	....	
do. School to Walnut	6	1,854	....	....	....	2,661
Highland st., Allen to Orange	6	....	....	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P) (S. R.-8,946)	2	....	120	....	....	120
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	...	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard court, south from Howard st. (see S. R.-8,662)	1¼	....	212	....	....	212
Howard place, south from Howard st	4	....	....	....	160	160
Howard st., Main to Water	6	....	....	....	994	
do. west from Water	2	....	420	....	....	
do. west from Water	6	..	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. from 6″ to railroad	4	....	....	304	....	346

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Howard st., Ludlow, east from North (P) (S. R.-5,629)	1¼	441	...	....	....	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hunt terrace, north from Allen st	4	....	....	235	...	
do. north from 4″	1¼	108	....	....	....	343
Hyde ave., east from Plainfield st	6	....	....	....	17	17
do. at Fisk ave	4	....	....	7	....	
do. from 4″ to Plainfield st	6	....	....	930	....	937
Hydrants, sundry streets	4	....	952	....	1,537	
do. sundry streets	6	....	....	....	407	2,896
do. sundry streets	4	....	....	3,742	....	
do. sundry streets	6	....	....	2,998	...	
do. sundry streets	8	....	....	169	....	6,909
Indian Orchard road (see Ludlow reservoir, "Main No. 1")	24	—	....	...	....	
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James st	4	....	....	959	....	959
Jasper st	6	....	....	1,079	....	1,079
Jefferson ave., at North Main st	8	....	....	....	10	
do. from 8″ to North st	12	....	....	....	876	
do. North st. to Chestnut	16	....	482	....	....	1,368
do. at North Main st	12	....	....	15	....	
do. from 12″ to North st	6	....	....	792	....	807
John st., west from Plainfield	4	....	....	....	259	
do. from 4″ to Fulton	6	....	....	....	419	678
Johnson st	6	....	....	1,930	....	1,930
Keith st	6	....	....	1,102	....	1,102
Kenwood ave., south from Bellevue (original location)	6	....	....	23	....	23
Kenwood park	6	....	....	800	....	800
Kibbe ave., north from Worthington st	6	....	202	....	....	
do. from cement-lined to Summer st	6	....	....	....	38	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	....	
do. Wilbraham ave to Westford	6	....	....	523	....	3,338
King st. ave., King st. to 1″ at Lebanon	2	367	....	....	....	
do. at Lebanon st	1	7	....	....	....	374
Knox st., Mill to Dexter (P) (S. R.-5,464)	2	674	....	....	....	674
Ladd st	6	....	...	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave, west from Plainfield st	6	....	....	....	674	674
La Verne ave., south from Bellevue (original location)	6	....	....	26	....	26
Lebanon pl., so. from King st. (P) (S. R.-5,016)	1¼	336	....	....	....	336
Lebanon st., Walnut to Hancock	16	630	....	...	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lenox st	6	....	....	447	....	447
Lexington ave	6	....	....	....	666	
do. (south side) east from Chestnut st. (P) (S. R.-4,880)	2	....	195	....	....	861
Leyfred terrace, north from Belmont ave	6	....	....	593	....	593
Liberty st., east from Main	6	...	....	....	1,195	
do. from 6″ to Chestnut	4	....	....	....	276	
do. Chestnut to Charles	6	....	....	....	319	
do. east from Charles	6	....	1,481	....	....	3,271

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Liberty st., Main to Heywood ave.	6	....	....	4,037	....	
do. Heywood ave. to Armory st.	8	....	....	1,950	....	
do. at Armory (north)	6	....	....	24	....	
do. Phœnix ave. to Carew st.	8	....	....	1,028	....	7,069
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st.	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from 6″ cast-iron	4	....	1,266	....	....	
do. from 4″ cement-lined to Cass	4	....	....	....	16	1,316
Litchfield st., Belmont ave. to Garfield st.	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. rom cement-lined to Mill	12	....	....	25	....	757
Logan street, at Olive (for flush gate)	6	....	....	10	...	10
Lombard st.	4	....	....	....	658	658
Long Hill st., South st. to Cherryvale ave.	8	....	....	2,867	....	
do. Cherryvale ave. to opposite E. H. Barney's house	2	1,431	....	....	....	4,298
Loring st., near Main (dead end) to 8″ at Water	6	....	....	....	678	
do. at Water	8	....	....	....	9	687
do. Main to Water	8	....	....	789	....	789
Lowell st.	6	....	....	....	1,372	1,372
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 1.						
From gatehouse to Higher brook as follows:—Crossing highway, thence near and southerly of same through private property, thence recrossing highway and northerly of same through private property to highway at brook	24	....	....	3,736	....	
Higher brook to Federal st. as follows:—Following highway to near Ludlow village, thence westerly, north of Athol branch of B. & A. R. R.—crossing over Chicopee river at "Indian Leap";—thence under tracks of railroad, and south of same to Main st., I. O., just east of Cedar st.;—thence in Main st. I. O., westerly to Myrtle; in Myrtle st. southerly to Berkshire; in Berkshire st. (Indian Orchard road) to State st.; and in State st. to Federal,—(less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	....	....	
Federal to Spring, 1,773 feet (see State st)	16	—	....	....	....	
Spring to Main, 2,026 feet (see State st).	16	....	....	—	....	
Under Athol branch tracks of B. & A. R. R. (at Indian Orchard)	24	....	....	135	....	
Under main tracks of B. & A. R. R. (at dry bridge in Indian Orchard road)	24	....	...	80	....	56,411
(NOTE:—Actual total length of Main No. 1 to Main st. is 60,210 feet, or 2,753 feet more than Main No. 2.)						

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Supply Main No. 2.						
From gatehouse, through dam	30	....	....	120	....	
From dam to intersection of Main No. 1, as follows:—Crossing highway, thence southerly of same and of Main No. 1, through private property to point of intersection in highway, about midway Ludlow center and Ludlow village	36	....	....	13,388	....	
From intersection of Main No. 1 to 24″ (in Carew st.) as follows:—Crossing highway at point of intersection, thence northerly of Main No. 1, through private property to Chicopee river, just below and west of Indian Orchard, and crossing same under bed of stream; thence through private property to Carew st., just west of St. James ave., and thence in Carew st. to 24″, near Prospect st., east	30	....	....	39,899	....	
From 30″ (in Carew st.) to Chestnut st.	24	....	....	2,380	....	
From Chestnut st. (in Carew st.) to Main —(See NOTE at end of Main No. 1.)—	20	....	....	1,670	....	57,457
At Chicopee river:—Auxiliary main for possible future use, laid across and under bed of stream, west of and parallel to Main No. 2—not connected at either end	30	....	....	300	....	300
At Reservoir.						
From distributing canal to cut-off basin	36	....	....	36	....	
Under cut off dam	36	....	...	132	....	
At Cherry Valley drain gate	20	....	...	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8″ cast-iron	6	....	112	....	....	
do. from 6″ cement-lined to Spring	6	....	....	....	436	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st.	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, Sumner ave. to Pineywoods	6	....	....	1,205	....	1,205
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	10,163
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man hole)	6	....	...	24	....	9,712

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. at 24″ main (east)	8	....	....	24	....	
do. from 8″ at 24″ main (east) to Wilbraham line	6	....	....	3,930	....	4,464
MAIN SUPPLY PIPES—(see "Ludlow reservoir," and "Van Horn reservoir")	—	—	—	—	—	
Malden st., Allen to Grand ave	6	....	....	835	....	835
Manhattan st., Walnut to Eastern ave	6	....	....	1,120	....	1,120
Maple ave., east from Maple st	6	....	....	392	....	392
Maple st., State to Central	6	....	....	....	2,138	2,138
do. Stockbridge to Union	6	....	...	857	....	
do. Union to Central	8	....	....	1,235	....	
do. Central to Pine	6	1,753	....	....	...	
do. op. No 310 (connecting 6″ and 4″)	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	....	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maple st., Ludlow, east from Harris road	6	....	....	432	....	432
Mapledell st	6	....	....	1,013	....	1,013
Maplewood terrace (north roadway)	6	....	....	1,378	....	1,378
Marble st	8	....	....	....	1,084	1,084
Marengo ave	6	....	....	1,350	....	
do. south side of Marengo park	2	590	....	....	....	1,940
Margaret st., Main to Water	6	...	....	....	884	
do. west from Water	4	....	....	....	566	1,450
do. west from Water	6	....	....	531	....	531
Marion st., Bay to McKnight (see Chapin st. for extension)	6	....	....	889	....	889
Market st., State to Harrison ave	6	....	....	....	1,058	1,058
do. State to Sanford	6	....	....	298	....	
do. south from East Court (P) (S. R.-4,262)	3	90	....	....	....	
do. south from Townsley ave	4	....	....	95	....	483
Marlborough st., east from Norfolk	1¼	86	....	....	....	86
Massasoit st., Carew to Montmorenci	6	....	....	....	1,921	
do. north from Montmorenci (P) (S. R.-6,519)	1¼	....	158	....	....	2,079
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., at Chestnut	6	....	....	....	24	
do. from 6″ to Elliott st	4	....	601	....	....	625
do. west from Elliott	6	....	....	362	....	362
Maynard ave., south from Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6″	2	....	353	....	....	388
Mechanics row, south from Bliss st	2	....	69	....	....	69
Melrose st., Eastern ave. to Cottage	6	....	....	740	....	740
Mero st., Ludlow, east from Harris road	6	....	....	489	....	489
Merrick ave., King st. to 1″ at Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	354	....	354
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	....	581	....	2,138

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Milton st., I. O., south from Main	6	....	...	694	....	
do. south from 6″ (P) (S. R.-10,779-10,780)	1¼	203	....	....	....	897
Monmouth st., Berkeley to Yale	6	....	....	479	....	
do. Yale to Dorchester	4	....	....	683	....	1,162
Monroe st., east from Hancock	6	..	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	...	....	730	....	1,708
Monson ave., north from Greene st	2	199	....	....	....	199
Montmorenci st	6	....	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6″	4	....	....	....	63	
do. from 4″ to near North st	6	....	....	....	580	
do. from 6″ to North st	4	....	....	....	75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. from 6″ to Central	8	....	....	....	326	1,110
Mulberry st., east from Maple (for S. R.-4,957)	2	445	....	...	....	
do. from 2″ to School (P) (S. R.-3,708)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Murray Hill ave., Liberty st. to 1″ at Franklin	6	....	....	651	....	
do. at Franklin (connecting)	1	15	....	....	....	666
Myrtle st	4	....	....	548	....	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Berkshire to Essex	8	....	....	627	....	627
National ave., south from Sumner	6	..	....	388	....	388
Nelson ave., King st. to 1″ at Lebanon	2	358	...	....	....	
do. at Lebanon st. (north)	1	17	....	....	....	
do. Lebanon st. to Greene	2	411	..	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Newland st., west from Plainfield	6	....	....	....	796	796
Noel ave., west from Highland st	6	....	....	813	....	813
Norfolk st., south from Wilbraham road	6	....	....	1,284	....	1,284
North st., Carew to Jefferson ave	16	....	2,000	....	....	
do. south from Calhoun (for S. R.-8,713-9,555)	1¼	....	181	....	....	
do. Calhoun to Harriet	6	....	....	....	972	3,153
do. at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave., Wilbraham road to south roadway of Gunn square (south)	6	....	...	1,660	....	1,660
North Church ave	4	...	....	....	400	400
North Main st., at Carew	8	....	....	....	16	
do. from 8″ cast-iron at Carew to near Bancroft (north)—(less cast-iron opposite No. 138-140)	8	....	2,100	....	....	
do. opposite No. 138-140	8	....	....	....	21	
do. near Bancroft (north) to near Hooker (north)	8	....	....	....	1,316	
do. near Hooker (north) to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,641	....	....	
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave.	8	....	....	....	28	6,174

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
North Main st., Carew to Grace	16	....	....	5,415	....	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (west)	4	....	....	14	....	
do. Grace to Chicopee line (P) (S. R.-7,948)	1¼	1,740	...	....	....	7,193
Norwood st	6	....	...	....	1,016	1,016
Oak st	6	1,450	....	....	....	1,450
Oak st., I. O., north from Main	4	....	....	362	....	
do. Main to Hampshire	6	....	....	1,336	....	
do. Hampshire to old Bay road	4	....	....	1,237	....	
do. west and north from Parker	6	...	....	2,328	....	
do. south from Main (for S. R.-10,003)	2	83	....	....	....	
do. so. from Worcester (for S. R.-6,671)	1¼	150	....	...	....	5,496
Oak Grove ave., north from State st	6	....	....	388	....	388
Oakland st., at Belmont ave	8	....	....	21	...	
do. from 8″ to Orange st	6	....	....	1,872	....	1,893
Olive st	6	...	....	515	....	515
Orange st., Highland to White	6	....	....	1,581	....	
do. east from White	6	....	...	474	....	2,055
Orchard street	6	....	....	....	1,452	1,452
Orleans court, Oak st. to 1¼″	1¼	275	....	....	....	
do. from 1¼″ to Orleans st. P) (S. R.-7,871-8,111)	1¼	182	....	....	....	437
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave	6	....	....	858	....	1,613
Osgood st., North Main to 4″ cast-iron near North	4	....	925	....	....	
do. from 4″ cement-lined to 8″ at North	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	...	21	....	21
Palmer ave., east from Locust st	6	....	....	307	....	
do. east from 6″ (P) (S. R.-5,695)	2	543	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	....	....	2,649	....	
do. south from Sumner	6	....	....	403	....	
do. south from 6″	1¼	66	....	....	....	3,118
Park st. east from Willow	3	....	....	....	224	
do. east from 3″	6	....	....	....	202	
do. from 6″ cast-iron to same at Maple	6	....	314	....		
do. at Maple	6	...	....	....	30	770
Parker ave., south from Dickinson st	6	....	....	448	....	448
Parker st., Main, I. O., to Oak, I. O.	6	....	....	3,677	....	
do. south from Oak, I. O.	4	...	....	920	....	4,597
Pasadena ave., White st. to Johnson	6	....	...	790	....	
do. south rom Johnson st	6	....	....	219	...	1,009
Pasco st., O., south from Essex	6	....	....	405	....	405
Patton st., east from Main	4	....	....	....	810	
do. from 4″ to Chestnut	6	....	....	....	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st., Chestnut to Spring	6	....	....	....	992	992
do. Spring to Byers	6	....	....	296	....	
do. Byers to Federal	4	...	....	2,150	....	2,446
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Phœnix ave., east from Liberty st	6	....	....	502	....	502

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Pine st., Walnut to Cedar (6″gate, north)..	6	....	....	1.679	....	
do. Cedar (6″gate,no.)to Maple(west line)	16	1,894	....	....	....	
do. west from 16″ at Maple (west line)..	24	114		....	....	
do. from 24″ to Mill (north line produced).....	16	766	....	....	....	4,453
Pine st., I.O., Main to beyondChapman Valve Mfg. Co.'s shops.....	6	....	....	1,807	....	1,807
Pine st. court.....	2	365	....	....	....	365
Pineywoods ave	6	....	....	1,753	...	1,753
Plainfield st., north from Bradford.....	6	...	....	....	17	
do. from 6″, near Bradford, to John.....	4	....	....	....	276	
do. John to Fulton.....	6	....	....	....	1,072	
do. Lowell to Washburn.....	6	....	....	....	278	
do. Washburn to Wason ave.....	8	....	....	....	4,482	6,125
Pleasant st	4	500	.. .	....	....	500
Plymouth st.....	6	....	....	....	500	500
Pomona ave., Sumner to Granada terrace, (north).....	6	....	....	612	....	612
Portsmouth st., east from Eastern ave.....	6	....	....	243	.. .	243
Princeton st., Bay to Cornell.	6	....	....	1,877	...	1,877
Prospect st., Chestnut to Massasoit.....	4	....	....	....	614	614
do. west from Carew.....	6	....	....	46	...	46
Pynchon st., at Water.....	8	....	....	....	15	
do. east from 8″.....	6	....	...	....	16	
do. east from 6″.....	3	....	....	....	800	
do. from 3″ to Main st.....	6	....	....	....	35	866
do. Main to beyond City Hall ave.....	8	....	. ..	355	....	355
Queen st., east from Walnut.....	4	....	....	420	....	
do. from 4″ to Hancock.....	6	....	....	356	....	776
Quincy st., Oak to 8″ at Hancock (west)....	6	....	....	1,427	....	
do. at Hancock (west)	8	....	....	11	....	
do. at Hancock (east).....	8	....	....	8	....	
do. from 8″ at Hancock (east) to Eastern ave	6	....	....	1.370	....	
do. Eastern ave. to Colton st.....	6	....	....	317	....	3,133
Railroad st., west from Main.....	6	....	....	....	234	
do. east from Water (no connection between 6″ and 1¼″).....	1¼	....	284	. .	....	518
Randall ave , north from Allen st.....	4	....	....	380	....	380
Raymond ave., north from Carew st. (P) (S.R.-8,618).....	2	158	....	....	....	
do. north from private pipe.....	2	100	....	....	....	258
Reed st., south from State (P) (S. R.-5,637) (dead end).....	2	690	....	....	....	
do. at Wilbraham road (for hydrant only)	6	....	....	9	....	699
Revere st.....	6	....	....	1,345	....	1,345
Richelieu place, east from Richelieu st. (P) (S. R.-8,627)	2	....	145	....	....	145
Richelieu st., south from Adams.....	4	....	....	...	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P) (S. R.-8,913).....	2	286	....	....	....	
do. west from Mulberrry st. (top of hill)..	4	....	....	233	....	519
Rimmon ave., Gladwood to Atwater terrace	6	....	....	1,038	....	1,038
Ringgold st	6	....	...	....	753	753
Ripley ave.....	2	204	....	....	....	204
Rush ave., south from Berkshire st.....	1¼	273	....	....	....	273

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Rutland ave., north from Wilbraham road.	1¼	141	....	....	....	
do. north from 1¼″	3	37	....	....	....	178
Rutledge ave., east from Main st	6	....	....	....	530	530
Sackett's ave., at Worthington st. (P) (S. R.-9,638)	1	10	....	....	....	
do. south from 1″ at Worthington st. (P) (S. R.-9,638)	1¼	190	....	....	....	200
Salem st., Spring to Elliott	6	....	....	....	390	390
do. do.	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. from 6″ to Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to 4″ at Dwight	6	....	....	394	....	
do. at Dwight	4	....	....	6	....	400
Sargeant st	6	....	....	....	963	963
do. west from Main	6	....	....	194	....	194
School st., State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....	....	
do. from 4″ to Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st	2	161	....	....	....	
do. south from Noel ave	6	....	....	229	....	390
Sharon st	6	....	1,585	....	....	1,585
Shattuck ave., College ave to Cortland st	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave. south from Morgan st	2	....	162	....	....	
do. south from 2″	1¼	....	54	....	....	216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to opposite No. 164 (P) (S. R.-3,615-3,701)	1	112	....	....	....	1,712
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
Sorrento ave., north from Sumner	6	....	....	259	....	259
South st., Mill river to Long Hill st	12	....	....	600	....	
do. south from Long Hill st	8	....	....	1,167	....	
do. south from 8″	6	....	....	411	....	2,178
Spring st., State to Worthington	6	....	1,921	....	....	
do. south from Lyman (dead end)	6	....	....	....	350	2,271
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., east from Chestnut (at brook) to 20″ from Van Horn reservoir	20	....	850	....	....	850
do. Chestnut to Armory	8	....	....	3,413	....	
do. Armory to Gladwood ave	12	....	....	153	....	
do. north from Gladwood ave	6	....	....	182	....	
do. connecting high and low services at hospital (see S. R.-5,547-A.)	4	....	....	9	....	3,757
Spruce st	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1 109
State st., from opposite Gas Co.'s boiler house to Water	6	....	....	....	165	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. from 6″ near Main to Maple	8	....	....	....	772	
do. Maple to Elliott	6	....	....	....	783	
do. Elliott to Spring	6	....	349	....	....	3,112

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
State st., from railroad (west) to Water	4	....	....	330	....	
do. Water to 12″ at Main (west)	8	....	....	923	....	
do. at Main (west)	12	....	....	12	....	
do. Main to Spring	16	...	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. Federal to Indian Orchard road (or Berkshire st.) (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Catharine to Eastern ave., (south of 24″ main—for Catharine st)	12	....	....	138	....	
do. west from College (south of 24″ main —for College st)	8	....	....	93	....	5,295
State st. ave, north from State st	1½	251	....	....	....	251
Stebbins st., State to Union	4	....	....	776	....	776
Stebbins st., Ludlow, west from Harris road	6	....	....	470	....	470
Sterns terrace, north from Central st	2	475	....	....	....	475
St. James ave., State st. to Bay	8	200	....	....	...	
do. Bay to 8″ at Dartmouth (south)	6	....	....	2,694	....	
do. at Dartmouth (south)	8	...	....	12	....	
do. at Dartmouth (north)	6	....	....	12	....	
do. from 6″ at Dartmouth (north) to 6″ near Lafayette	8	....	....	1,321	...	
do. from 8″ near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	...	470	....	470
Suffolk st., south from Wilbraham road	6	....	....	1,385	....	1,385
Sullivan st., east from Armory	6	....	....	380	....	380
Summer st., east from Spring	6	....	....	....	43	
do. from 6″ to Autumn st	3	....	644	....	...	
do. Autumn st. to Kibbe ave	8	....	....	....	1,221	
do. north to site of old Athol engine house	4	....	....	....	210	2,118
do. Kibbe ave., to Armory st	8	....	....	1,191	....	1,191
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	701	....	
do. Fort Pleasant to Belmont	8	....	....	4,440	....	
do. Belmont to opposite No. 636	8	....	....	1,291	....	6,432
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st	6	....	....	....	735	
do. from cast-iron to Fisk ave	6	....	42	....	....	777
Taylor ave., west from Willow st	2	....	197	....	....	197
Taylor st., east from Chestnut	2	....	350	....	....	350
do. Main to Dwight	8	....	....	843	....	
do. east from Dwight	8	....	...	383	....	
do. from 8″ to Chestnut	6	....	....	44	....	1,270
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st	4	815	....	....	....	815
Thomas street	6	....	....	....	632	632
do. at North Main	6	....	....	44	....	44
Thompson st., State to Saint James avenue	8	1,540	....	....	....	
do. St. James avenue to Worthington st	8	....	....	716	....	2,256

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Townsley ave	6	....	....	174	....	174
Tyler st., Oak to Hancock	6	1,440	....	....	....	
do. Hancock to Colton	6	....	....	1,689	....	3,129
Union st., railroad to 4″ cast-iron near Water st.	4	....	386	....	....	
do. from 4″ cement-lined to Water	4	....	....	....	49	
do. Water to Maple	6	....	....	....	2,123	2,558
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	.	....	
do. Hancock to Colton	6	....	....	1,686	...	6,632
VAN HORN RESERVOIR, as follows:—						
From gatehouse through dam	12	....	....	....	200	
From gatehouse through dam	16	....	...	....	200	
From 16″ at dam westerly through meadow to Springfield st	20	....	1,800	....	....	2,200
From Armory street main to upper basin (high service feeder)	6	....	....	278	....	278
Vassar street	6	....	....	542	....	542
Ventura ave	6	....	....	960	....	960
Vernon st	6	....	....	....	910	910
Vine st	6	....	....	....	823	823
do. west from Main	6	....	....	89	...	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walden st, Forest ave. to Commonwealth	6	....	....	302	....	302
Walker st	6	....	619	....	....	619
do. Water to Gardner ave	8	....	...	450	....	
do. Gardner ave. to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	830	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	5,127
Walter st., east from Birnie ave	2	....	251	...	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., south from Wilbraham road	6	....	....	537	....	537
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Warwick st., east from Heywood ave. (P) (S. R.-6,720)	6	....	....	386	....	
do. completion to Armory	6	....	....	867	....	
do. for hydrants (P) (S. R.-6,720)	4	....	...	24	....	1,277
Washburn st., west from east line of Plainfield	6	....	...	....	1,453	1,453
Wason ave., west from North Main st	8	....	707	....	....	
do. from 8″ to Fisk ave	12	....	....	....	213	
do. Fisk ave., to near Plainfield st	10	....	....	....	972	
do. from 10″ to Plainfield st	8	....	....	....	15	1,907
do. at Birnie ave. (west)	8	....	....	93	....	
do. at Fisk ave. (east)	12	....	....	15	....	
do. at Fisk ave. (west)	8	....	....	14	....	122
Water st., Railroad st. to Hampden	6	....	....	....	308	
do. Hampden to Gardner	12	...	4,810	....	....	
do. Walker to Lombard (for fire reservoir, opposite Walker st.)	6	....	....	....	105	5,223
do. State to Howard	8	....	....	476	....	
do. Margaret to Walker	8	....	....	588	....	1,064

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Waverly st., No. Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12″	8	....	....	....	33	
do. from 8″ cast-iron to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., at Pearl st. (north)	4	....	....	....	6	
do. north from 4″	3	....	232	....	....	
do. south from Pearl st. (P) (S. R.-8,496)	1¼	....	142	....	....	380
Webster st	6	....	....	668	...	668
Welcome place	6	....	....	252	...	252
Wellesley st	6	....	....	481	....	481
Wellington st., south from Wilbraham road	6	....	....	691	....	691
Wendell ave., east from Main st	6	....	....	....	465	465
Westford ave., Wilbraham road to King st.	6	....	....	2,160	....	2,160
Westminster st., State to Bay	6	1,100	....	....	...	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., Allen to hydrant, south of Dawson ave. (opposite house No. 244)	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	419	419
Wight ave., east from Water	6	....	....	....	277	
do. east from 6″	1½	....	157	....	....	434
Wilbraham ave., south from Wilbraham road	6	....	....	1,597	....	
do. 6″ to King st	8	....	....	542	....	
do. north from Alden st	8	....	....	27	....	2,166
Wilbraham road, Eastern ave. to near Carlisle ave. (west)	12	....	....	3,927	....	
do. from 12″ to opposite House of Good Shepherd	8	....	....	1,631	....	
do. west from Reed st. (P) (S. R.-7,329)	1¼	153	....	....	....	5,711
Wilcox st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	3	
do. at Water (west)	8	....	....	....	3	
do. from 8″ at Water (west) to railroad	4	....	....	....	457	1,428
Willard ave., near State st., to Shattuck avenue	6	....	....	714	....	
do. at Shattuck ave. (north)	6	....	....	8	....	722
William st., railroad to Water	6	....	523	....	....	
do. Water to Main	6	....	....	....	945	
do. east from Main	6	....	....	....	23	
do. east from 6″	4	....	227	....	....	
do. from 4″ to Dale	6	....	....	....	388	2,106
do. east from Main	6	....	....	248	....	248
Willow st., State to Taylor ave	6	....	....	....	630	
do. at Taylor ave. (south)	4	....	....	....	3	
do. from 4″ at Taylor ave. (south) to Park st	3	....	....	....	153	786
do. State to Hubbard ave	10	....	....	1,220	....	1,220
Winchester st	4	543	....	....	....	543
Windsor ave	1½	485	....	....	....	485
Windsor st., east from Pine	2	679	....	....	...	679
Winthrop st	6	....	....	....	697	697
Wolcott st., east from Liberty	6	....	....	306	....	306
Woodbine ave., north from Hickory st	4	....	....	327	....	
do. north from 4″ (P) (S. R.-8,185)	1¼	192	....	....	....	519
Woodside ave	6	....	....	449	....	449

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Woodworth ave	2	457	....	....	....	457
Worcester ave., east from Plainfield st	6	....	....	....	811	
do. from 6″ to Fisk ave	4	....	....	....	52	863
Worcester st., I. O., Myrtle to Oak	6	....	....	735	....	
do. Oak to Pine	2	593	....	....	....	
do. east from Pine	6	....	....	576	....	1,904
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Spring	6	....	....	....	2,114	
do. Spring to Kibbe ave	6	....	1,857	....	....	4,122
do. west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near No. 176	10	....	....	559	....	
do. near No. 176 to Bowdoin	8	....	....	4,672	....	
do. Bowdoin to St. James ave	12	....	....	1,654	....	7,781
Yale st., Dartmouth to Monmouth	6	....	....	1,666	....	1,666
York st., west from Main	8	....	281	....	....	
do. west from wrought-iron	8	....	....	....	183	
do. from 8″ to Hanover (west) (see note)	6	....	....	....	497	961
(NOTE:—6″ connected at Hanover with 8″ high service main in that street, and actually high service west of east end of jail.)						
Totals	....	126,733	56,217	437,795	135,388	756,133

MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	HIGH SERVICE.			LOW SERVICE.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
1-inch	901	.....	901	260	.....	260	1,161
1¼-inch	5,552	.....	5,552	1,840	.....	1,840	7,392
1½-inch	3,702	.....	3,702	353	.....	353	4,055
2-inch	19,738	.....	19,738	2,818	.....	2,818	22,556
3-inch	926	.....	926	1,326	1,177	2,503	3,429
4-inch	5,779	40,594	46,373	8,766	12,385	21,151	67,524
6-inch	15,588	208,988	224,576	12,909	95,566	108,475	333,051
8-inch	10,317	76,816	87,133	9,482	15,758	25,240	112,373
10-inch	.....	4,107	4,107	.....	972	972	5,079
12-inch	1,782	25,496	27,278	8,084	8,997	17,081	44,359
16-inch	9,874	19,589	29,463	6,014	523	6,537	36,000
20-inch	.....	1,999	1,999	4,365	10	4,375	6,374
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,319	40,319	.....	.....	.....	40,319
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	126,733	437,795	564,528	56,217	135,388	191,605	756,133

RECAPITULATION BY MATERIAL.

MATERIAL.	HIGH SERVICE.		LOW SERVICE.		TOTALS.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	126,733	24.00	56,217	10.65	182,950	34.65
Cast-Iron	437,795	82.92	135,388	25.64	573,183	108.56
Totals	564,528	106.92	191,605	36.29	756,133	143.21

GATES SET IN 1899.

(INCLUDING THOSE ADDED.)

ONE INCH.

Liberty street, at Charles, connecting 6″ cement-lined to 6″ cast-iron,	Low,	1	
Spring street, connecting high and low (account 1898) (private),	High,	1	
Spring street, connecting high and low (account 1898) (private),	Low,	1	
		—	3

ONE AND ONE-QUARTER INCH.

Bay street avenue, at Bay street,	High,	1	
Belgrade place, at end of pipe (flush),	High,	1	
Gunn square (north roadway) at Northampton avenue,	High,	1	
Howard court, at Howard street (purchase: — see S. R.- 8,662),	Low,	1	
Rush avenue, at Berkshire street,	High,	1	
Rush avenue, near Berkshire street,	High,	1	
		—	6

ONE AND ONE-HALF INCH.

Carew street avenue, at Carew street (private) (see S. R.- 12,009),	High,	1	
Hunt terrace, at end of 4″,	High,	1	
State street avenue, at State street,	High,	1	
Wight avenue, at end of 6″,	Low,	1	
		—	4

TWO INCH.

Auburn street, near Main (flush),	Low,	1
Cedar street, opposite No. 25 (flush),	High,	1
Charles street, at Franklin (flush),	Low,	1
Chestnut street, at Allendale (north) (flush),	Low,	1
Clinton street, near Main (flush),	Low,	1

Long Hill street, north of Sumner avenue (flush),	High,	1	
Sorrento avenue, at Sumner (flush),	High,	1	
Walnut street, near State (flush),	High,	1	
Worcester street, Indian Orchard, at Pine (west),	High,	1	
		—	9

THREE INCH.

Beaumont street, near Dickinson (flush),	High,	1	
Carew street, for E. A. Dexter (private),	High,	1	
Continental avenue, near No. 32 (flush),	High,	1	
Crystal avenue, near No. 78 (flush),	High,	1	
Elliott street, near State (flush),	Low,	1	
Garfield street, near Litchfield (flush),	High,	1	
Garfield street, near No. 108 (flush),	High,	1	
Hawthorn place, near No. 51 (flush),	High,	1	
Lenox street, near No. 43 (flush),	High,	1	
National avenue, at end of street (flush),	High,	1	
		—	10

FOUR INCH.

Bond place, for 346 Main street (private),	High,	1	
Center street, Indian Orchard, at Oak,	High,	1	
Columbus avenue, at Park avenue,	High,	1	
Dwight street, for Nos. 91–93 (private),	High,	1	
Dymon street, at Walnut,	High,	1	
Five Mile pond, pumping station, for hydrant,	High,	1	
Fulton street, for Hampden park (private),	Low,	1	
Hunt terrace, at Allen street,	High,	1	
James street, at Walnut,	High,	1	
Lyman street, for No. 15 (private),	High,	1	
Lyman street, for Nos. 39–41 (private),	High,	1	
Lyman street, for Nos. 39–41 (private),	Low,	1	
Lyman street, for A. Whitney (private),	High,	1	
Lyman street, for No. 196 (private),	High,	1	
Main street, for Nos. 316–320 (private),	High,	1	
Pynchon street, for Nos. 412–416 Main (private),	High,	1	
Ridgewood terrace, at Mulberry street (top of hill),	High,	1	
Springfield street, for hospital (connect with low service),	High,	1	
State street, for Cathedral premises (private),	High,	1	
Stockbridge street, for Smith & Wesson (private),	High,	1	
		—	20

SIX INCH.

Alfred street, at Birnie avenue,	High,	1
Alfred street, at North Main,	High,	1
Beaumont street, at Dickinson,	High,	1
Belgrade place, at Walnut street,	High,	1
Berendo avenue, at Alderman street,	High,	1
Brookline avenue, at Chestnut street,	Low,	1
Brookline avenue, at North street,	Low,	1
Charles street, at Franklin,	Low,	1
Charles street, at Liberty (north),	Low,	1
Cherrelyn avenue, at Phœnix,	High,	1
Clayton avenue, at Phœnix,	High,	1
Colonial avenue, at State street,	High,	1
Colonial avenue, at Wilbraham road,	High,	1
Denver street, at Boston road,	High,	1
Dickinson street, at Alderman,	High,	1
Dymon street, at Oak,	High,	1
Kenwood park, at Dickinson street,	High,	1
Leyfred terrace, at Belmont avenue,	High,	1
Malden street, at Allen,	High,	1
Mill street, at engine house, for hydrant, etc.,	High,	1
Myrtle street, I. O., at Main (drain valve),	High,	1
North street, at Harriet (south),	Low,	1
North street, at Waverly (north),	Low,	1
Oak street, I. O., at Main (south),	High,	1
Phœnix avenue, at Liberty street,	High,	1
Prospect street, at Carew,	High,	1
Revere street, at Orange,	High,	1
Revere street, at Grand avenue (south),	High,	1
Revere street, at Grand avenue (north),	High,	1
Revere street, at White,	High,	1
Springfield street, at Gladwood avenue (north),	High,	1
Ventura avenue, at Alderman street,	High,	1
Walnut street, at State, for hydrant,	High,	1
		33

EIGHT INCH.

Armory street, at New England railroad (south),	High,	1
Federal street, at Summer,	High,	1
Springfield street, near No. 12,	High,	1
Summer street, midway Federal and Kibbe avenue,	High,	1

Walnut street, at Cedar (north), . . .	High.	1	
Walnut street, at Oak (south), . . .	High.	1	
		—	6

TWELVE INCH.

Five Mile pond pumping station, on outlet of large pump	High,	1	
Five Mile pond pumping station, on outlet of small pump, ...	High,	1	
		—	2

SIXTEEN INCH.

Five Mile pond pumping station line, at Berkshire street, ...	High,	1	
		—	1

TWENTY INCH.

Carew street, at Main (geared), . . .	High,	1	
Five Mile pond pumping station, on suction of large pump, ...	High.	1	
		—	2

TWENTY-FOUR INCH.

Berkshire street, at railroad crossing (north), .	High,	1	
Berkshire street, at railroad crossing (south), .	High,	1	
		—	2

Total number of gates added in 1899, . 98

GATES TAKEN OUT IN 1899.

(INCLUDING THOSE ABANDONED.)

ONE INCH.

Center street, I. O., at Oak,	High,	1	
Dymon street, at Oak,	High,	1	
Dymon street, at Walnut,	High,	1	
Lexington avenue (north side), at Chestnut street,	Low,	1	
Webster street, at Liberty,	High,	1	
		—	5

ONE AND ONE-QUARTER INCH.

Auburn street, near Main (flush),	Low,	1	
Clinton street, near Main (flush),	Low,	1	
Elliott street, near State (flush),	Low,	1	
State street, for Electric Light Co. (account of 1896),	Low,	1	
		—	4

TWO INCH.

Garfield street, near No. 108 (flush),	High,	1	
Lexington avenue (north side), at Chestnut street,	Low,	1	
National avenue, at end of pipe (flush),	High,	1	
North street, at Calhoun (north), (pipe becomes service, only),	Low,	1	
State street, for Electric Light Co. (account of 1895),	High,	1	
		—	5

THREE INCH.

Charles street, at Franklin (flush),	Low,	1	
Charles street, at Liberty (north),	Low,	1	
		—	2

FOUR INCH.

Charles street, at Liberty (south),	Low,	1	
Liberty street, near Chestnut,	Low,	1	
		—	2

SIX INCH

James street, at Walnut, . . .	High,	1	
Myrtle street, I. O., at Main (drain valve), .	High,	1	
Stockbridge street, for Smith & Wesson (private),	High,	1	
		—	3

EIGHT INCH.

Oak street, I. O., at Main (south), . .	High,	1	
Walnut street, at Cedar (north), . .	High,	1	
		—	2

TWENTY INCH.

Carew street, near Main. . . .	High.	1	.
		—	1

Total number of gates deducted in 1899, .		24
Number of gates December 1, 1898, .		1,763
Number of gates added in 1899, . . .	98	
Number of gates deducted in 1899, . .	24	
Net addition in 1899, . . .		74
Total number of gates December 1, 1899, .		1,837

FIRE HYDRANTS SET IN 1899.

HIGH SERVICE.

Armory street, east side, opposite Wolcott,	1
Belgrade place, N. W. corner Walnut street,	1
Center street, I. O., east of Oak,	1
Center street, I. O., west of Cedar,	1
Cherrelyn avenue, S. E. corner Phœnix,	1
Clayton avenue, east side, at end of pipe,	1
Colonial avenue, N. E. corner Wilbraham road,	1
Denver street, east side, at end of pipe,	1
Dickinson street, west side, opposite Alderman,	1
Dymon street, north side, midway,	1
Five Mile pond, at pumping station,	1
Hunt terrace, east side, at end of 4",	1
Leyfred terrace, N. E. corner Belmont avenue,	1
Malden street, N. E. corner Grand avenue,	1
Noel avenue, north side, at end of pipe,	1
Prospect street, S. W. corner Carew,	1
Randall avenue, west side, at end of pipe,	1
Revere street, N. E. corner Grand avenue,	1
Springfield street, south side, midway Armory and Chestnut,	1
Ventura avenue, S. E. corner Alderman street (account of 1897),	1
Walnut street, N. E. corner Oak,	1
Welcome place, east side, at end of pipe,	1
Westminster street, S. E. corner Bay,	1
	2:

LOW SERVICE.

Brookline avenue, N. W. corner Chestnut street,	1
Charles street, west side, midway Franklin and Liberty,	1
Chestnut street, opposite No. 55,	1
Everett street, south side, in front of No. 57,	1

Total number of city hydrants set in 1899, . . 2:

FIRE HYDRANTS TAKEN OUT IN 1899.

HIGH SERVICE.

Walnut street, at Oak,	1	
Westminster street, at Bay,	1	
	—	2

LOW SERVICE.

Charles street, west side, midway Franklin and Liberty,	1	
Chestnut street, west side, opposite No. 55,	1	
Everett street, south side, opposite No. 57,	1	
	—	3
Total number of city hydrants taken out in 1899,		5

Number of city hydrants, as per report, December 1, 1898,			931
Number of city hydrants set in 1899,	26		
Number of city hydrants not previously recorded,	1		
	—	27	
Number of city hydrants taken out in 1899,		5	
		—	
Net in addition, 1899,			22
Total number of city hydrants December 1, 1899,			953
(High service, 694)			
(Low service, 259)			
Number of private hydrants December 1, 1898,		90	
Number of private hydrants set in 1899,		0	
		—	
Total number of private hydrants December 1, 1899,			90
Total number of hydrants connected with the works, December 1, 1899,			1,043

NOTE :— The two low service "flush hydrants" on Water street are disconnected and abandoned.

FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets.	Chapman
2.	L.	N. W. corner Main and Cypress streets.	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue.	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street.	Chapman
5.	L.	Gray's avenue, west side, midway.	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets.	Chapman
7.	H.	N. E. corner Cypress and Boylston streets.	Chapman
8.	L.	N. E. corner Fulton and Cypress streets.	Perkins
9.	H.	N. E. corner Fulton and Cypress streets.	Chapman
10.	H.	N. E. corner Fulton and Emery streets.	Chapman
11.	L.	N. E. corner Fulton and Emery streets.	Chapman
12.	H.	N. E. corner Emery and Boylston streets.	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue.	Chapman
14.	H.	S. W. corner Main and Emery streets.	Chapman
15.	H.	N. W. corner Main and Clinton streets.	Chapman
16.	L.	Clinton street, south side, midway.	Chapman
17.	L.	N. E. corner Fulton and Clinton streets.	Chapman
18.	L.	N. E. corner Fulton and Vine streets.	Chapman
19.	L.	Vine street, south side, midway.	Chapman
20.	H.	N. W. corner Main and Vine streets.	Chapman
21.	H.	N. W. corner Main and Holyoke streets.	Chapman
22.	L.	Holyoke street, north side, midway.	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets.	Chapman
24.	L.	N. E. corner Fulton and Auburn streets.	Chapman
25.	L.	Auburn street, north side, midway.	Chapman
26.	H.	S. W. corner Main and Auburn streets.	Chapman
27.	H.	S. W. corner Main and Seventh streets.	Chapman
28.	L.	Seventh street, north side, midway.	Perkins
29.	L.	N. E. corner Fulton and Seventh streets.	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets.	Chapman
31.	L.	Sargeant street, south side, midway, 6″ S. con.	Chapman
32.	H.	N. W. corner Main and Sargeant streets.	Chapman

No.	High or Low.	Location.	Make.
33.	H.	N. W. corner No. Main and Bradford streets.	Chapman
34.	L.	Bradford street, north side, midway.	Chapman
35.	L.	N. E. corner Fulton and Bradford streets.	Chapman
36.	L.	N. E. corner Fulton and John streets.	Chapman
37.	L.	S. W. corner Plainfield and John streets.	Chapman
38.	L.	Plainfield street, west side, near Plymouth.	Chapman
39.	L.	Fulton street, opposite M. Dunn's house, Round Hill.	Chapman
40.	L.	Plainfield street, east side, at Fulton.	Chapman
41.	L.	N. W. corner Plainfield and Washburn streets.	Chapman
42.	L.	N. W. corner Plainfield and Lowell streets.	Chapman
43.	L.	Lowell street, north side, midway.	Chapman
44.	L.	Lowell street, north side, at end of street.	Chapman
45.	L.	Washburn street, north side, midway.	Chapman
46.	L.	Washburn street, north side, at end of street.	Chapman
47.	L.	Orchard street, north side, at end of street.	Chapman
48.	L.	Orchard street, north side, midway, 6″ S. con.	Chapman
49.	L.	Orchard street, N. W. corner Plainfield.	Chapman
50.	L.	Newland street, N. W. corner Plainfield, 6″ S. con.	Chapman
51.	L.	Newland street, north side, end of pipe, 6″ S. con.	Chapman
52.	L.	Clyde street, N. W. corner Plainfield, 6″ S. con.	Chapman
53.	L.	Plainfield street, east side, opposite Clayton.	Chapman
54.	L.	Abbe avenue, N. W. corner Plainfield street.	Chapman
55.	L.	Abbe avenue, just east of No. 154, 6″ S. con.	Chapman
56.	L.	Talcott avenue, N. E. corner Plainfield street.	Chapman
57.	L.	Talcott avenue, north side, midway.	Chapman
58.	L.	N. W. corner Fisk and Talcott avenues.	Chapman
59.	H.	S. W. corner Fisk and Worcester avenues.	Chapman
60.	L.	N. W. corner Fisk and Worcester avenues.	Chapman
61.	L.	Worcester avenue, north side, midway.	Chapman
62.	L.	N. E. corner Plainfield street and Worcester avenue.	Chapman
63.	L.	N. E. corner Plainfield street and Demond avenue.	Chapman
64.	L.	Demond avenue, north side, midway.	Chapman
65.	H.	S. W. corner Fisk and Demond avenues.	Chapman
66.	H.	Fisk avenue, east end of Holyoke Card and Paper Co.'s shop.	Chapman
67.	H.	S. W. corner Fisk and Hyde avenues.	Chapman
68.	H.	Hyde avenue, S. E. corner Plainfield street.	Chapman
69.	L.	N. E. corner Plainfield street and Hyde avenue.	Chapman
70.	L.	S. E. corner Plainfield street and Wason avenue.	Chapman

No.	High or Low.	Location.	Make.
71.	H.	S. W. corner Wason and Fisk avenues.	Chapman
72.	L.	S. E. corner Wason and Fisk avenues.	Matthews
73.	L.	Wason avenue, north side, opposite No. 31.	Chapman
74.	H.	Birnie avenue, S. E. corner Wason, 6″.	Chapman
75.	L.	North Main street, opposite Wason avenue.	Chapman
76.	H.	Birnie avenue, 200 feet north of Grace street.	Chapman
77.	H.	S. E. corner Birnie avenue and Grace street.	Chapman
78.	L.	Birnie avenue, at the end of Grace street.	Ayers
79.	H.	S. W. corner No. Main and Grace streets.	Chapman
80.	H.	N. W. corner No. Main and Walter streets.	Chapman
81.	H.	Birnie avenue, S. E. corner Alfred street, 6″.	Perkins
82.	H.	Birnie avenue, S. E., corner Douglas street.	Chapman
83.	H.	Birnie avenue, south of preceding.	Chapman
84.	L.	Birnie avenue, between the two preceding, 6″ S. con.	Chapman
85.	H.	Douglas street, N. W. corner No Main.	Chapman
86.	H.	Douglas street, north side, east end of pipe, 6″ S. con.	Chapman
87.	H.	N. E. corner No. Main and Grove streets.	Chapman
88.	L.	N. W. corner No. Main and Hooker streets.	Chapman
89.	H.	East Hooker street, N. E. corner No. Main, 6″ S. con.	Chapman
90.	L.	N. E. corner No. Main and Calhoun streets.	Chapman
91.	H.	S. E. corner No. Main and Calhoun streets.	Chapman
92.	L.	N. E. corner No. Main street and Jefferson avenue.	Chapman
93.	H.	Jefferson avenue, midway No. Main and North streets, 6″ S. con.	Chapman
94.	L.	Arch street, north side, front of No. 36.	Chapman
95.	H.	N. W. corner No. Main and Arch streets.	Perkins
96.	L.	Bancroft street, south side, midway.	Chapman
97.	H.	N. E. corner No. Main and Bancroft streets.	Chapman
98.	L.	N. E. corner No. Main and Bancroft streets.	Chapman
99.	H.	S. E. corner No. Main and Osgood streets.	Chapman
100.	L.	Morgan street, south side, midway.	Chapman
101.	H.	N. E. corner No. Main and Morgan streets.	Chapman
102.	L.	S. E. corner No. Main and Morgan streets, 6″ S. con.	Chapman
103.	H.	S. E. corner No. Main and Church streets.	Chapman
104.	H.	North street, N. E. corner Carew.	Chapman
105.	L.	N. E. corner Carew and North streets, 6″ S. con.	Chapman
106.	L.	Carew place, east side, end of pipe.	Chapman
107.	H.	S. E. corner Main and Carew streets.	Chapman
108.	H.	S. E. corner Main and Bond streets.	Chapman

No.	High or Low.	Location.	Make.
109.	L.	N. E. corner Main and Bond streets.	Chapman
110.	L.	Bond street, north side, midway.	Chapman
111.	L.	Bond street, north side, front of Nos. 110–112.	Chapman
112.	L.	N. W. corner Chestnut and Patton streets.	Chapman
113.	L.	Patton street, north side, front of No. 54.	Chapman
114.	L.	N. E. corner Main and Patton streets.	Chapman
115.	H.	S. E. corner Main and Patton streets.	Chapman
116.	H.	N. E. corner Main and Essex streets.	Chapman
117.	L.	N. E. corner Main and Essex streets.	Perkins
118.	L.	Essex street, north side, opposite No. 51.	Perkins
119.	L.	Essex street, north side, front of No. 98.	Perkins
120.	L.	N. W. corner Chestnut and Tenth streets.	Chapman
121.	L.	Tenth street, north side, opposite Nos. 105–107.	Chapman
122.	L.	Tenth street, north side, front of Nos. 54–56.	Chapman
123.	H.	N. E. corner Main and Tenth streets.	Chapman
124.	H.	N. E. corner Main and Greenwood streets.	Chapman
125.	L.	Greenwood street, north side, front of No. 42.	Chapman
126.	L.	Greenwood street, north side, opposite No. 83.	Chapman
127.	L.	Greenwood street, north side, front of No. 118.	Chapman
128.	H.	S. W. corner Chestnut, and Franklin streets.	Chapman
129.	H.	Franklin street, south side, front of Nos. 111–113.	Chapman
130.	H.	Franklin street, south side, at stone yard.	Chapman
131.	H.	Franklin street, south side, opposite No. 46.	Chapman
132.	L.	N. E. corner Main and Franklin streets.	Chapman
133.	H.	Franklin street, S. E. corner Main, 6″ S. con.	Chapman
134.	H.	S. E. corner Main and Congress streets.	Chapman
135.	L.	Congress street, north side, opposite No. 33.	Chapman
136.	L.	Congress street, north side, opposite No. 97.	Chapman
137.	L.	N. W. corner Chestnut and Sharon streets.	Perkins
138.	L.	Sharon street, north side, front of No. 92.	Perkins
139.	L.	Sharon street, north side, front of No. 52.	Perkins
140.	H.	S. E. corner Main and Sharon streets.	Chapman
141.	H.	S. E. corner Main and Ferry streets.	Chapman
142.	L.	Ferry street, north side, front of No. 46.	Chapman
143.	L.	Ferry street, north side, opposite No. 97.	Chapman
144.	L.	Chestnut street, west side, opposite Liberty.	Perkins
145.	H.	Chestnut street, opposite Ferry, 6″ S. con.	Chapman
146.	H.	Chestnut street, opposite No. 275, 6″ S. con.	Chapman
147.	H.	Chestnut street, opposite Sharon, 6″ S. con.	Chapman
148.	H.	Chestnut street, east side, opposite Congress.	Chapman

No.	High or Low.	Location.	Make.
149.	H.	Chestnut street, S. E. corner Franklin, 6″ S. con.	Chapman
150.	L.	Franklin street, north side, west of Cass, 6″ S. con.	Chapman
151.	H.	Chestnut street, opposite Greenwood, 6″ S. con.	Chapman
152.	H.	Chestnut street, opposite Tenth, 6″ S. con.	Chapman
153.	H.	N. E. corner Chestnut and Linden streets, 6″ S. con.	Chapman
154.	L.	Linden street, near S. E. corner Chestnut.	Chapman
155.	L.	Linden street, south side, opposite No. 46.	Perkins
156.	L.	S. W. corner Cass and Linden streets.	Chapman
157.	L.	S. W. corner Cass and Everett streets.	Chapman
158.	L.	Everett street, south side, midway.	Chapman
159.	H.	Chestnut street, opposite Patton, 6″ S. con.	Chapman
160.	L.	S. E. corner Chestnut and Everett streets.	Chapman
161.	L.	N. E. corner Chestnut and Butler streets.	Chapman
162.	L.	Arbor street, east side, front of No. 40.	Chapman
163.	H.	Prospect street, S. W. corner Carew, 6″ S. con.	Chapman
164.	H.	Massasoit street, N. E. corner Carew.	Chapman
165.	L.	N. W. corner Carew and Massasoit streets, 6″ S. con.	Chapman
166.	H.	Chestnut street, S. E. corner Carew.	Chapman
167.	L.	N. E. corner Chestnut and Carew streets.	Chapman
168.	L.	N. W. corner Chestnut and Grosvenor streets.	Chapman
169.	L.	Grosvenor street, south side, midway.	Chapman
170.	L.	N. E. corner North and Grosvenor streets.	Chapman
171.	L.	N. E. corner North and Ringgold streets.	Chapman
172.	L.	S. W. corner North and Morgan streets.	Chapman
173.	L.	Ringgold street, south side, midway.	Chapman
174.	L.	S. W. corner Chestnut and Ringgold streets.	Chapman
175.	L.	N. W. corner Chestnut and Hebron streets.	Chapman
176.	L.	Hebron street, north side, midway.	Chapman
177.	L.	S. W. corner Prospect and Massasoit streets.	Chapman
178.	L.	N. W. corner Chestnut and Allendale streets.	Chapman
179.	L.	Allendale street, south side, midway.	Chapman
180.	L.	N. W. corner North and Osgood streets.	Chapman
181.	L.	S. W. corner North and Bancroft streets.	Perkins
182.	L.	Brookline avenue, S. W. corner Chestnut street, 6″ S. con.	Chapman
183.	L.	S. W. corner Chestnut and Bancroft streets.	Chapman
184.	L.	Lexington avenue, N. W. corner Massasoit street.	Chapman
185.	L.	S. W. corner North street and Jefferson avenue.	Chapman

No.	High or Low.	Location.	Make.
186.	H.	N. W. corner North street and Jefferson avenue, 6″ S. con.	Chapman
187.	L.	N. W. corner Montmorenci and Massasoit streets.	Chapman
188.	L.	Montmorenci street, north side, midway.	Chapman
189.	L.	N. W. corner Chestnut street and Jefferson avenue.	Chapman
190.	L.	Calhoun street, north side, at North.	Chapman
191.	L.	Alexander street, N. E. corner North.	Chapman
192.	L.	S. W. corner Chestnut and Waverly streets.	Chapman
193.	L.	Harriet street, N. E. corner North, 6″ S. con.	Chapman
194.	L.	Chestnut street, west side, near Springfield.	Chapman
195.	H.	Merwin street, N. W. corner Chestnut, S. con.	Chapman
196.	H.	Eagle street, N. W. corner Chestnut, S. con.	Chapman
197.	H.	Springfield street, opposite city hospital, 6″ S. con.	Chapman
198.	H.	Springfield street, midway Chestnut and Armory, 6″ S. con.	Chapman
199.	H.	Atwater terrace, north side, end of pipe.	Chapman
200.	H.	Rimmon avenue, south side, end of pipe.	Perkins
201.	H.	Rimmon avenue, S. W. corner Gladwood.	Perkins
202.	H.	Springfield street, S. W. corner Armory.	Perkins
203.	H.	Armory street, front of truant school, 6″ S. con.	Chapman
204.	H.	N. E. corner Carew and Armory streets.	Chapman
205.	H.	Grover street, N. E. corner Armory, 6″ S. con.	Chapman
206.	H.	Grover street, N. W. corner Liberty, 6″ S. con.	Chapman
207.	H.	Clayton avenue, east side, end of pipe, 6″ S. con.	Chapman
208.	H.	Cherrelyn avenue, S. E. corner Phœnix, 6″ S. con.	Chapman
209.	H.	Cleveland street, N. W. corner Liberty, 6″ S. con.	Chapman
210.	H.	Cleveland street, N. E. corner Armory, 6″ S. con.	Chapman
211.	H.	Sullivan street, N. E. Armory, 6″ S. con.	Chapman
212.	H.	S. E. corner Liberty and Armory streets.	Chapman
213.	H.	Armory street, east side, opposite Wolcott, 6″ S. con.	Chapman
214.	H.	Liberty street (about 500 feet W. of Armory street), 6″ S. con.	Chapman
215.	H.	Liberty street, front of Gurdon Bill's, 6″ S. con.	Chapman
216.	H.	Columbia terrace, west side, at end of pipe, 6″ S. con.	Chapman
217.	H.	S. W. corner Liberty street and Heywood avenue.	Chapman
218.	H.	Warwick street, north side, opposite Taber-Prang Co.'s shop, 6″ S. con.	Chapman
219.	H.	Liberty street, south side, opposite Webster.	Chapman

No.	High or Low.	Location.	Make.
220.	H.	N. E. corner Liberty and Vinton streets.	Chapman
221.	H.	Vinton street, S. E. corner Franklin.	Chapman
222.	H.	Webster street, S. W. corner Franklin, 6″ S. con.	Chapman
223.	H.	Cass street, S. E. corner Franklin.	Chapman
224.	H.	Franklin street, north side, midway Cass and Charles, 6″ S. con.	Chapman
225.	H.	Liberty street, south side, opposite Cass.	Chapman
226.	L.	Liberty street, south side, front of the R. F. Hawkins shops.	* Perkins
227.	H.	Liberty street, north side, front of No. 200.	Chapman
228.	H.	S. E. corner Liberty and Charles streets.	Chapman
229.	L.	Charles street, west side, midway Franklin and Liberty, 6″ S. con.	Chapman
230.	H.	Charles street, west side, near B. & A. R. R. freight house.	Chapman
231.	H.	S. E. corner Chestnut and Liberty streets.	Chapman
232.	H.	N. E. corner Chestnut and Charles streets.	Chapman
233.	H.	S. W. corner Chestnut and Liberty streets.	Chapman
234.	H.	N. W. corner Chestnut and Liberty streets, 6″ S. con.	Chapman
235.	L.	Liberty street, north side, opposite Day & Jobson's planing mill.	Perkins
236.	H.	Liberty street, south side, front of R. R. station.	Chapman
237.	L.	Liberty street, south side, opposite No. 74.	Chapman
238.	L.	Liberty street, south side, east of Cooley's hotel.	Chapman
239.	H.	Liberty street, south side, east of Cooley's hotel.	Chapman
240.	L.	Liberty street, S. E. corner Main, 6″ S. con.	Chapman
241.	H.	S. E. corner Main and Liberty streets, 6″ S. con.	Chapman
242.	H.	Main street, east side, just north of arch.	Chapman
243.	L.	Railroad street, S. W. corner Main, 6″ S. con.	Chapman
244.	L.	Railroad street, at driveway of Massasoit house, 6″ S. con.	Chapman
245.	L.	S. E. corner Water and Railroad streets.	Matthews
246.	H.	S. E. corner Water and Hampden streets.	Perkins
247.	H.	Hampden street, north side, midway.	Perkins
248.	L.	S. W. corner Main and Hampden streets, 6″ S. con.	Chapman
249.	L.	Fort street, south side, midway.	Chapman
250.	L.	S. E. corner Water and Fort streets.	Chapman
251.	L.	S. W. corner Main and Worthington streets.	Chapman

* Taken out since December 1.

No.	High or Low.	Location.	Make.
252.	L.—	N. W. corner Main and Bridge streets.	Chapman
253.	H.—	Bridge street, north side, opposite Bond place.	Chapman
254.	H.—	Bond place, west side, south end.	Chapman
255.	H.—	Bridge street, south side, front of No. 43.	Matthews
256.	L.—	N. E. corner Water and Bridge streets.	Chapman
257.	H.—	N. W. corner Water and Bridge streets.	Chapman
258.	L.—	Wight avenue, north side, at end of avenue.	Chapman
259.	L.—	N. E. corner Water and Vernon streets.	Chapman
260.	L.—	Vernon street, north side, midway.	Chapman
261.	H.—	N. W. corner Main and Vernon streets.	Matthews
262.	L.—	Main street, west side, front of No. 360, 6″ S. con.	Chapman
263.	L.—	Main street, west side, front of No. 388, 6″ S. con.	Chapman
264.	L.—	S. W. corner Main and Vernon streets.	Chapman
265.	H.—	N. W. corner Main and Pynchon streets.	Matthews
266.	L.—	S. W. corner Main and Pynchon streets.	Chapman
267.	H.—	Pynchon street south side, front of city hall park.	Chapman
268.	H.—	City Hall avenue, west side, midway.	Chapman
269.	L.—	N. E. corner Water and Pynchon streets.	Chapman
270.	L.—	Court street, south side, near Water.	Chapman
271.	L.—	Court street, south side, midway.	Chapman
272.	H.—	Court street, south side, opposite City hall, 6″.	Perkins
273.	L.—	N. W. corner Main and Court streets, 6″ S. con.	Chapman
274.	H.—	S. W. corner Main and Court streets.	Chapman
275.	H.—	N. W. corner Main and Elm streets, 6″.	Perkins
276.	L.—	S. W. corner Main and Elm streets, 6″ S. con.	Chapman
277.	H.—	Elm street, S. W. corner Court square.	Chapman
278.	L.—	Elm street, south side, midway.	Chapman
279.	L.—	N. E. corner Water and Elm streets.	Chapman
280.	H.—	State street, west of N. Y., N. H. & H. R. R.	Chapman
281.	H.—	N. E. corner Water and State streets, 6″.	Perkins
282.	L.—	S. E. corner Water and State streets.	Chapman
283.	H.—	State street, north side, front of No. 52, 6″ S. con.	Chapman
284.	L.—	State street, south side, front of No. 71, 6″ S. con.	Chapman
285.	H.—	State street, north side, near Court House.	Chapman
286.	L.—	S. W. corner Main and State streets.	Chapman
287.	H.—	N. W. corner Main and Bliss streets.	Chapman
288.	L.—	S. W. corner Main and Bliss streets, 6″ S. con.	Chapman
289.	L.—	Bliss street, south side, front of No. 29.	Chapman
290.	L.—	Bliss street, south side, front of Nos. 57-59.	Chapman
291.	H.—	Water street, N. E. corner Bliss.	Chapman

No.	High or Low.	Location.	Make.
292.	L.	N. E. corner Water and Bliss streets.	Chapman
293.	L.	Bliss street, south side at railroad, 6″ S. con.	Chapman
294.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.	Chapman
295.	L.	Howard street, south side, near N. Y., N. H. & H. R. R.	Perkins
296.	H.	Water street, N. E. corner Howard.	Chapman
297.	L.	N. W. corner Water and Howard streets.	Chapman
298.	L.	Howard street, south side, front of No. 43.	Perkins
299.	H.	N. W. corner Main and Howard streets.	Chapman
300.	L.	S. W. corner Main and Howard streets.	Chapman
301.	L.	S. W. corner Main and Union streets.	Chapman
302.	L.	Union street, south side, midway Main and Water.	Chapman
303.	H.	Union street, north side, midway Main and Water.	Chapman
304.	L.	S. E. corner Water and Union streets.	Chapman
305.	L.	Wilcox street, north side, near railroad.	Chapman
306.	L.	S. E. corner Water and Wilcox streets.	Chapman
307.	L.	Wilcox street, south side, front of No. 47.	Chapman
308.	H.	N. W. corner Main and Wilcox streets.	Chapman
309.	L.	S. W. corner Main and Wilcox streets.	Chapman
310.	L.	S. W. corner Main and William streets.	Chapman
311.	L.	William street, north side, front of No. 120.	Chapman
312.	L.	William street, north side, opposite No. 83.	Chapman
313.	L.	N. W. corner Water and William streets.	Perkins
314.	L.	William street, north side, near railroad.	Perkins
315.	L.	Margaret street, north side, near railroad.	Chapman
316.	H.	Margaret street, at street railway power house, 6″ S. con.	Chapman
317.	H.	Water street, S. W. corner Margaret, 6″ S. con.	Chapman
318.	L.	N. E. corner Water and Margaret streets.	Chapman
319.	L.	Margaret street, south side, opposite Nos. 42–44.	Chapman
320.	H.	N. W. corner Main and Margaret streets.	Chapman
321.	L.	S. W. corner Main and Margaret streets.	Chapman
322.	L.	S. W. corner Main and Fremont streets.	Chapman
323.	L.	Fremont street, south side, front of No. 41.	Chapman
324.	L.	N. E. corner Walnut and Fremont streets.	Chapman
325.	L.	Whitney avenue, north side, end of avenue.	Chapman
326.	H.	Water street, west side, near Loring.	Chapman
327.	H.	Loring street, north side, front of No. 34.	Chapman
328.	H.	N. W. corner Main and Loring streets.	Chapman

No.	High or Low.	Location.	Make.
329.	L.	Lombard street, north side, opposite No. 25.	Chapman
330.	H.	S. W. corner Water and Walker streets.	Chapman
331.	H.	Walker street, south side, near Walker's shop.	Chapman
332.	L.	Walker street, north side, midway, 6″ S. con.	Chapman
333.	H.	Walker street, south side, near railroad.	Chapman
334.	H.	S. E. corner Gardner and Hanover streets.	Chapman
335.	L.	Gardner street, north side, front of No. 96.	Chapman
336.	H.	Gardner street, south side, opposite Gardner ave.	Chapman
337.	L.	N. E. corner Water and Gardner streets.	Perkins
338.	L.	N. E. corner Hanover and Norwood streets.	Perkins
339.	L.	Norwood street, south side, midway.	Chapman
340.	L.	N. W. corner Main and Norwood streets.	Chapman
341.	L.	S. W. corner Main and Broad streets, 6″ S. con.	Chapman
342.	L.	S. E. corner Hanover and Broad streets, 6″ S. con.	Chapman
343.	H.	Hanover street, east side, near Broad.	Chapman
344.	L.	Elmwood street, north side, near Barney & Berry's shop.	Chapman
345.	H.	N. W. corner Hanover and York streets.	Chapman
346.	L.	York street, north side, front of schoolhouse.	Chapman
347.	L.	N. W. corner Main and York streets.	Perkins
348.	H.	Main street, east side, opposite No. 962.	Matthews
349.	H.	South street, east side, opposite No. 5.	Chapman
350.	H.	S. E. corner South and Long Hill streets.	Chapman
351.	H.	South street, east side, below Long Hill, 6″ S. con.	Chapman
352.	H.	South street, east side, at so. end bridge, 6″ S. con.	Chapman
353.	H.	Long Hill street, east side, near brick yard.	Chapman
354.	H.	Warner place, north side, midway, 6″ S. con.	Chapman
355.	H.	Long Hill street, east side, north of Sumner avenue.	Chapman
356.	H.	N. E. corner Long Hill street and Sumner ave.	Chapman
357.	H.	Long Hill street, east side, near Spruceland avenue.	Chapman
358.	H.	Spruceland avenue, north side, opposite No. 50.	Perkins
359.	H.	Long Hill street, N. E. corner Cherryvale avenue, 6″ S. con.	Chapman
360.	H.	Pineywoods avenue, N. W. corner Washington boulevard, 6″ S. con.	Chapman
361.	H.	Spruceland avenue, S. W. corner Magnolia terrace.	Chapman
362.	H.	Magnolia terrace, end of pipe.	Chapman
363.	H.	Firglade avenue, east side, north of Spruceland.	Chapman

No.	High or Low.	Location.	Make.
364.	H.	Pineywoods avenue, N. E. corner Firglade, 6″ S. con.	Chapman
365.	H.	Hawthorn place, east side, south of No. 51.	Chapman
366.	H.	S. E. corner Sumner avenue and Hawthorn place.	Chapman
367.	H.	S. E. corner Sumner and Firglade avenues.	Chapman
368.	H.	Magnolia terrace, at Sumner avenue.	Chapman
369.	H.	N. W. corner Sumner and Fort Pleasant avenues.	Chapman
370.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″ S. con.	Chapman
371.	H.	Maplewood terrace, north side, midway, S. con.	Chapman
372.	H.	Maplewood terrace, N. W. corner Park avenue.	Chapman
373.	H.	S. E. corner Forest street and Park avenue.	Chapman
374.	H.	Park avenue, N. E. corner Sumner.	Chapman
375.	H.	Greenleaf street, N. E. corner Sumner avenue.	Chapman
376.	H.	Sumner avenue, south side, at Forest park, 6″ S. con.	Chapman
377.	H.	Churchill street, N. E. corner Sumner avenue.	Chapman
378.	H.	Churchill street, S. E. corner Garfield.	Chapman
379.	H.	Greenleaf street, S. E. corner Garfield.	Chapman
380.	H.	Fairfield street, north side, midway.	Chapman
381.	H.	Belmont avenue, S. E. corner Litchfield street.	Chapman
382.	H.	Litchfield street, N. E. corner Garfield.	Chapman
383.	H.	N. W. corner Belmont avenue and Oakland street.	Chapman
384.	H.	Oakland street, west side, opposite No. 46.	Chapman
385.	H.	Kenwood park, N. W. corner Belmont avenue, 6″.	Chapman
386.	H.	Beaumont street, N. W. corner Belmont avenue, 6″ S. con.	Chapman
387.	H.	Brace street, N. W. corner Belmont avenue, 6″ S. con.	Chapman
388.	H.	Continental avenue, east side, end of pipe, 6″ S. con.	Chapman
389.	H.	Cliftwood avenue, S. E. corner Sumner, 6″ S. con.	Chapman
390.	H.	Lenox street, at end of same, 6″ S. con.	Chapman
391.	H.	Sumner avenue, S. W. corner Belmont.	Chapman
392.	H.	Forest avenue, about 300 ft. south of Sumner, 6″ S. con.	Chapman
393.	H.	Commonwealth avenue, east side, 350 ft. south of Walden street, 6″ S. con.	Chapman
394.	H.	Commonwealth avenue, east side, 175 ft. south of Washington street, 6″ S. con.	Chapman

No.	High or Low.	Location.	Make.
395.	H.	—Sorrento avenue, N. E. corner Sumner, 6″ S. con.	Chapman
396.	H.	—Sumner avenue, south side, near Converse street, 6″ S. con.	Chapman
397.	H.	—Pomona avenue, opposite Granada terrace, 6″ S. con.	Chapman
398.	H.	—Granada terrace, in grass plot at Sorrento avenue, east.	Chapman
399.	H.	—Ventura avenue, S. E. corner Granada terrace, 6″ S. con.	Chapman
400.	H.	—Granada terrace, N. E. corner Dickinson street, 6″ S. con.	Chapman
401.	H.	—Berendo avenue, S. E. corner Alderman street, 6″ S. con.	Chapman
402.	H.	—Ventura avenue, S. E. corner Alderman street, 6″ S. con.	Chapman
403.	H.	—Dickinson street, west side, opposite Alderman street, 6″ S. con.	Chapman
404.	H.	—Kenwood park, west side, midway, 6″.	Chapman
405.	H.	—Kenwood park, S. W. corner Dickinson street, 6″.	Chapman
406.	H.	—Johnson street, at Dickinson, 6″.	Chapman
407.	H.	—Parker avenue, west side, end of pipe, 6″ S. con.	Chapman
408.	H.	—Oakland street, N. W. corner Dickinson.	Chapman
409.	H.	—Crystal avenue, S. W. corner Dickinson street, 6″ S. con.	Chapman
410.	H.	—Hall street, S. W. corner Dickinson.	Chapman
411.	H.	—Hall street, west side, midway.	Chapman
412.	H.	—N. E. corner Belmont avenue and Hall street.	Chapman
413.	H.	—Forest street, east side, about midway.	Chapman
414.	H.	—N. E. corner Belmont avenue and Keith street.	Chapman
415.	H.	—Keith street, west side, front of No. 51.	Chapman
416.	H.	—S. W. corner Keith and Dickinson streets.	Chapman
417.	H.	—Euclid avenue, S. W. corner Dickinson street.	Chapman
418.	H.	—Euclid avenue, west side, midway.	Chapman
419.	H.	—Belmont avenue, N. W. corner Marengo.	Chapman
420.	H.	—Marengo avenue, S. W. corner Dickinson street, 6″ S. con.	Chapman
421.	H.	—Marengo avenue, at LaVerne (proposed street), 6″ S. con.	Chapman

No.	High or Low.	Location.	Make.
422.	H.	LaVerne avenue, S. E. corner Bellevue (former location).	Perkins
423.	H.	Kenwood avenue (proposed street), S. E. corner Bellevue (former location).	Chapman
424.	H.	Bellevue avenue (former location), S. W. corner Dickinson street.	Chapman
425.	H.	Belmont avenue, east side, opposite No. 134.	Chapman
426.	H.	Woodside avenue, at end of pipe, 6″ S. con.	Chapman
427.	H.	Park avenue, N. E. corner Fort Pleasant.	Chapman
428.	H.	Chase avenue, N. E. corner Fort Pleasant, 6″ S. con.	Chapman
429.	H.	Chase avenue, N. W. corner Riverview street, 6″ S. con.	Chapman
430.	H.	Edgeland avenue, north side, midway.	Chapman
431.	H.	Crescent terrace, in park at Fort Pleasant avenue, 6″ S. con.	Chapman
432.	H.	Leyfred terrace, N. E. corner Belmont avenue, 6″ S. con.	Chapman
433.	H.	Belmont avenue, west side, at Fort Pleasant.	Chapman
434.	H.	Mill street, south side, midway Locust and Main.	Matthews
435.	H.	Locust street, N. E. corner Mill, 6″ S. con.	Chapman
436.	H.	Mill street, north side, opposite Howard's waste mill.	Perkins
437.	H.	Pine street, north side, at Mill.	Chapman
438.	H.	Warriner avenue, north side, end of pipe.	Chapman
439.	H.	Palmer avenue, north side, 300 feet east of Locust street, 6″ S. con.	Chapman
440.	L.	Main street, east side, at Locust.	Matthews
441.	H.	Main street, N. E. corner Acushnet avenue, 6″.	Chapman
442.	L.	Acushnet avenue, north side, midway.	Chapman
443.	L.	Acushnet avenue, north side, end of pipe.	Chapman
444.	H.	Main street, N. E. corner Rutledge avenue, 6″.	Chapman
445.	L.	Rutledge avenue, north side, midway.	Perkins
446.	L.	Wendell avenue, 6″ S. con.	Chapman
447.	H.	Main street, east side, opposite Broad, 6″.	Chapman
448.	H.	Main street, N. E. corner Marble, 6″.	Chapman
449.	L.	Marble street, N. E. corner Main, 6″.	Chapman
450.	L.	Marble street, north side, midway, 6″.	Chapman
451.	L.	Marble street, north side, end of pipe, 6″.	Chapman
452.	H.	Main street, east side, opposite Gardner, 6″.	Chapman
453.	L.	Main street, east side, opposite Gardner.	Perkins

No.	High or Low.	Location.	Make.
454.	H.	Main street, east side, front of No. 739, 6″.	Chapman
455.	H.	Main street, east side, opposite Lombard, 6″.	Chapman
456.	H.	Main street, S. E. corner Adams, 6″.	Chapman
457.	L.	Adams street, south side, midway.	Chapman
458.	L.	Ashmun street, east side, opposite Adams.	Chapman
459.	L.	Central street, north side, opposite No. 63, 6″ S. con.	Chapman
460.	H.	N. E. corner Main and Central streets.	Chapman
461.	H.	N. E. corner Main and Morris streets.	Chapman
462.	L.	Morris street, north side, opposite No. 40.	Chapman
463.	L.	Morris street, east side, at angle.	Chapman
464.	L.	Winthrop street, N. W. corner Dale, 6″ S. con.	Chapman
465.	L.	Winthrop street, north side, midway, 6″ S. con.	Chapman
466.	H.	N. E. corner Main and Winthrop streets.	Chapman
467.	H.	N. E. corner Main and William streets.	Chapman
468.	H.	William street, south side, midway Main and Dale.	Chapman
469.	L.	N. W. corner William and Dale streets.	Chapman
470.	H.	N. E. corner Willow street and Hubbard avenue.	Chapman
471.	H.	S. E. corner Main street and Hubbard avenue.	Chapman
472.	H.	N. E. corner Main and Union streets.	Chapman
473.	H.	N. E. corner Union and Willow streets.	Perkins
474.	L.	S. E. corner Union and Dale streets.	Chapman
475.	H.	S. W. corner Park and Willow streets.	Perkins
476.	H.	N. E. corner Main and Park streets.	Chapman
477.	H.	S. E. corner Main and Cross streets.	Chapman
478.	H.	N. E. corner Willow and Cross streets, 6″ S. con.	Chapman
479.	H.	Cross street, south side, midway Maple and Willow.	Chapman
480.	H.	S. E. corner Main street and Crossett avenue.	Chapman
481.	H.	S. E. corner Main and Stockbridge streets.	Chapman
482.	L.	Stockbridge street, S. W. corner Willow, 6″ S. con.	Chapman
483.	H.	N. E. corner Willow and Stockbridge streets, 6″ S. con.	Chapman
484.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop.	Perkins
485.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop.	Perkins
486.	H.	S. E. corner State and Willow streets.	Perkins
487.	L.	State street, S. W. corner Willow, 6″ S. con.	Chapman
488.	H.	N. E. corner State and Dwight streets.	Chapman
489.	L.	N. W. corner State and Dwight streets.	Chapman

No.	High or Low.	Location.	Make.
490.	H.	N. W. corner State and Market streets.	Chapman
491.	H.	N. E. corner State and Main streets, 6″ S. con.	Chapman
492.	H.	N. E. corner Main and Sanford streets, 6″ S. con.	Chapman
493.	L.	S. W. corner Market and Sanford streets.	Chapman
494.	L.	Sanford street, north side, midway Market and Dwight.	Chapman
495.	H.	Sanford street, north side, near Dwight.	Perkins
496.	H.	Sanford street, N. E. corner Market, 6″ S. con.	Chapman
497.	L.	S. W. corner Dwight and East Court streets.	Chapman
498.	H.	N. W. corner Dwight and East Court streets.	Perkins
499.	L.	Dwight street, S. W. corner New, 6″ S. con.	Chapman
500.	H.	N. W. corner East Court and New streets.	Chapman
501.	H.	S. W. corner East Court and Market streets.	Chapman
502.	H.	S. E. corner Main and East Court streets.	Matthews
503.	H.	Main street, east side, front of No. 445, 6″ S. con.	Chapman
504.	H.	Main street, east side, front of No. 415, 6″ S. con.	Chapman
505.	H.	N. E. corner Main street and Townsley avenue.	Matthews
506.	H.	Main street, east side, opposite Pynchon.	Matthews
507.	H.	N. W. corner Market street and Townsley avenue.	Chapman
508.	L.	S. W. corner Harrison avenue and Market street.	Chapman
509.	H.	S. E. corner Main street and Harrison avenue.	Chapman
510.	H.	Harrison avenue, N. E. corner Main street, 6″.	Perkins
511.	H.	Main street, east side, opposite Vernon, 6″.	Matthews
512.	H.	Harrison avenue, north side, opposite Market street, 6″.	Chapman
513.	H.	Harrison avenue, north side, front of No. 44, 6″.	Perkins
514.	H.	Harrison avenue, south side, front of No. 37, 6″.	Perkins
515.	H.	Harrison avenue, N. W. corner Dwight street, 6″.	Chapman
516.	L.	S. W. corner Harrison avenue and Dwight street.	Chapman
517.	H.	N. E. corner Harrison avenue and Dwight street.	Perkins
518.	H.	Dwight street, front of No. 109, 6″ S. con.	Chapman
519.	L.	S. W. corner Dwight and Hillman streets.	Chapman
520.	H.	N. W. corner Dwight and Hillman streets.	Chapman
521.	H.	Hillman street, N. W. corner Barnes, 6″ S. con.	Chapman
522.	H.	Hillman street, south side, midway.	Chapman
523.	H.	N. E. corner Main and Hillman streets, 6″ S. con.	Chapman
524.	H.	N. E. corner Main and Bridge streets.	Chapman
525.	L.	Bridge street, S. E. corner Barnes, 6″ S. con.	Chapman
526.	L.	Bridge street, north side, at Stearns park.	Chapman
527.	L.	Dwight street, S. W. corner Bridge, 6″ S. con.	Chapman

No.	High or Low.	Location.	Make.
528.	H.	N. E. corner Bridge and Dwight streets, 6″ S. con.	Chapman
529.	L.	S. E. corner Worthington and Dwight streets, 6″ S. con.	Chapman
530.	H.	N. W. corner Worthington and Dwight streets.	Chapman
531.	H.	S. E. corner Worthington street and Stearns avenue.	Chapman
532.	L.	Worthington street, south side, front of No. 99.	Chapman
533.	H.	N. E. corner Main and Worthington streets.	Chapman
534.	H.	Main street, east side, opposite Fort.	Chapman
535.	H.	N. E. corner Main and Taylor streets.	Matthews
536.	H.	Taylor street, south side, front of No. 23.	Matthews
537.	H.	Taylor street, north side, opposite No. 51.	Matthews
538.	H.	N. E. corner Taylor and Dwight streets.	Perkins
539.	H.	Taylor street, north side, front of No. 96, 6″ S. con.	Chapman
540.	H.	S. E. corner Lyman and Dwight streets.	Perkins
541.	L.	Lyman street, north side, opposite Dwight.	Chapman
542.	H.	Lyman street, south side, front of No. 53.	Perkins
543.	L.	Lyman street, north side, opposite Nos. 39–43.	Chapman
544.	H.	Lyman street, north side, opposite Nos. 27–31.	Perkins
545.	H.	N. E. corner Main and Lyman streets.	Matthews
546.	L.	Lyman street, S. E. corner Main, 6″ S. con.	Chapman
547.	H.	Main street, east side, opposite Hampden, 6″ S. con.	Chapman
548.	H.	Main street, east side, just south of arch.	Chapman
549.	H.	N. E. corner Chestnut and Lyman streets.	Chapman
550.	H.	Chestnut street, S. W. corner Lyman, 6″.	Chapman
551.	H.	Lyman street, north side, midway Spring and Chestnut.	Chapman
552.	L.	S. E. corner Chestnut and Lyman streets.	Perkins
553.	H.	N. E. corner Chestnut and Taylor streets.	Chapman
554.	L.	Chestnut street, east side, opposite Taylor, 6″ S. con.	Chapman
555.	H.	N. W. corner Chestnut and Taylor streets.	Chapman
556.	H.	N. E. corner Chestnut and Worthington streets.	Chapman
557.	L.	S. W. corner Chestnut and Worthington streets.	Chapman
558.	H.	Chestnut street, S. W. corner Worthington, 6″.	Chapman
559.	L.	Chestnut street, east side, near Bridge.	Chapman
560.	H.	Chestnut street, N. W. corner Bridge, 6″.	Chapman
561.	L.	S. E. corner Chestnut and Pearl streets.	Chapman
562.	H.	Chestnut street, west side, opposite Pearl, 6″.	Chapman
563.	H.	Chestnut street, west side, opposite Mattoon, 6″.	Chapman
564.	H.	Chestnut street, N. W. corner Harrison avenue, 6″.	Chapman

No.	High or Low.	Location.	Make.
565.	H.	Chestnut street, west side, opposite Edwards, 6″.	Chapman
566.	L.	Edwards street, north side, opposite No. 37.	Perkins
567.	L.	Chestnut street, west side, opposite No. 55.	Chapman
568.	H.	Chestnut street, west side, opposite No. 49, 6″.	Chapman
569.	H.	Chestnut street, west side, opposite Christ church.	Perkins
570.	H.	N. E. corner State and Chestnut streets, 6″ S. con.	Chapman
571.	H.	State street, north side, near City Library.	Perkins
572.	H.	State street, north side, at cathedral, 6″ S. con.	Chapman
573.	H.	N. W. corner State and Elliott streets.	Matthews
574.	L.	Elliott street, west side, front of convent.	Chapman
575.	H.	N. W. corner State and Spring streets.	Matthews
576.	H.	N. E. corner Spring and Frost streets.	Chapman
577.	L.	S. W. corner Spring and Salem streets.	Ayers
578.	H.	Spring street, east side, opposite Salem, 6″.	Perkins
579.	L.	Elliott street, S. E. corner Salem, 6″ S. con.	Chapman
580.	H.	Salem street, north side, opposite Elliott.	Chapman
581.	L.	Pearl street, north side, opposite Salem, 6″ S. con.	Chapman
582.	H.	S. E. corner Pearl and Spring streets.	Chapman
583.	H.	Pearl street, north side, at Byers.	Chapman
584.	H.	Pearl street, north side, at angle.	Chapman
585.	H.	Pearl street, north side, front of No. 242.	Brown
586.	H.	N. W. corner Pearl and Federal streets.	Chapman
587.	H.	N. E. corner Worthington and Federal streets.	Perkins
588.	H.	Worthington street, north side, opposite No. 485.	Chapman
589.	H.	N. E. corner Worthington street and Kibbe avenue.	Chapman
590.	H.	Worthington street, north side, opposite Sackett's avenue.	Chapman
591.	L.	S. W. corner Worthington street and Sackett's avenue.	Perkins
592.	H.	Worthington street, north side, opposite No. 377.	Chapman
593.	H.	N. E. corner Worthington and Autumn streets.	Chapman
594.	H.	Worthington street, north side, opposite schoolhouse.	Chapman
595.	L.	S. W. corner Worthington and Spring streets.	Ayers
596.	L.	Worthington street, S. W. corner Spring, 6″ S. con.	Chapman
597.	H.	N. E. corner Worthington and Spring streets.	Chapman
598.	H.	N. E. corner Worthington and Alert streets.	Chapman
599.	L.	Worthington street, south side, opposite Alert, 6″ S. con.	Chapman
600.	H.	N. E. corner Spring and Summer streets.	Chapman

No.	High or Low.	Location.	Make.
601.	L.	Lyman street, south side, front of Gilbert & Barker's shop.	Chapman
602.	H.	Lyman street, north side, at Spring.	Chapman
603.	H.	Summer street, north side, opposite Autumn.	Perkins
604.	L.	Summer street, south side, front of No. 103.	Perkins
605.	L.	Summer street, south side, front of No. 147.	Perkins
606.	H.	Summer street, S. E. corner Kibbe avenue, 6″.	Chapman
607.	H.	Summer street, S. W. corner Federal, 6″.	Chapman
608.	H.	Armory street, N. W. corner Warwick avenue, 6″ S. con.	Chapman
609.	H.	Armory street, east side, at paint shops.	Chapman
610.	H.	Armory street court, S. E. corner Armory street avenue, 6″ S. con.	Chapman
611.	H.	Worthington street, N. W. corner Armory, 6″ S. con.	Chapman
612.	H.	N. E. corner Armory and Grant streets.	Chapman
613.	H.	Federal street, west side, at Armory gate.	Matthews
614.	H.	N. E. corner Federal and Lincoln streets.	Perkins
615.	H.	Lincoln street, N. W. corner Magazine, S. con.	Chapman
616.	H.	N. W. corner Magazine and Grant streets.	Chapman
617.	H.	S. E. corner Armory and Magazine streets.	Chapman
618.	H.	Worthington street, south side, midway Armory and Bowdoin, 6″ S. con.	Chapman
619.	H.	S. E. corner Worthington and Bowdoin streets.	Perkins
620.	H.	Bowdoin street, east side, midway Worthington street and St. James avenue.	Chapman
621.	H.	S. E. corner Bowdoin street and Ingersoll grove.	Chapman
622.	H.	Ingersoll grove, east side, at angle.	Chapman
623.	H.	S. W. corner Florida and Worthington streets.	Matthews
624.	H.	S. E. corner Worthington and Thompson streets.	Chapman
625.	H.	Thompson street, east side, midway St. James avenue and Worthington street.	Chapman
626.	H.	Dartmouth terrace, east side, front of No. 45.	Chapman
627.	H.	S. W. corner Harvard street and St. James avenue.	Chapman
628.	H.	S. E. corner Harvard and Cornell streets.	Chapman
629.	H.	S. E. corner Cornell and Wellesley streets.	Chapman
630.	H.	S. E. corner Cornell and Princeton streets.	Chapman
631.	H.	S. W. corner St. James avenue and Princeton street.	Chapman
632.	H.	St. James avenue, west side, opposite Dorchester street.	Chapman
633.	H.	N. E. corner Dorchester and Monmouth streets.	Chapman

No.	High or Low.	Location.	Make.
634.	H.	N. W. corner Lafayette and Amherst streets.	Chapman
635.	H.	N. W. corner Monmouth and Yale streets.	Chapman
636.	H.	Monmouth street, at Berkeley.	Chapman
637.	H.	N. W. corner Princeton and Yale streets.	Chapman
638.	H.	Princeton street, west side, between Vassar and Amherst.	Chapman
639.	H.	Harvard street, south side, midway St. James avenue and Yale street.	Chapman
640.	H.	N. W. corner Harvard and Yale streets.	Chapman
641.	H.	N. E. corner Dartmouth and Yale streets.	Chapman
642.	H.	Dartmouth street, north side, midway.	Chapman
643.	H.	S. E. corner Dartmouth street and St. James avenue.	Chapman
644.	H.	S. E. corner Clarendon street and St. James avenue.	Chapman
645.	H.	Clarendon street, north side, between Bay street and St. James avenue.	Chapman
646.	H.	S. W. corner Buckingham and Clarendon streets.	Chapman
647.	H.	N. E. corner Buckingham street and Buckingham place.	Chapman
648.	H.	S. E. corner Buckingham and Bay streets.	Chapman
649.	H.	S. E. corner Bay and Westminster streets.	Chapman
650.	H.	Westminster street, east side, midway St. James avenue and Bay street.	Chapman
651.	H.	S. E. corner Westminster street and St. James avenue.	Chapman
652.	H.	S. E. corner Thompson street and St. James avenue.	Chapman
653.	H.	S. E. corner Thompson and Bay streets.	Perkins
654.	H.	S. E. corner Bay and Pleasant streets.	Perkins
655.	H.	S. W. corner Florida street and St. James avenue.	Matthews
656.	H.	N. E. corner St. James avenue and Bowdoin street.	Chapman
657.	H.	N. E. corner State street and St. James avenue.	Perkins
658.	H.	N. E. corner State and Pleasant streets.	Perkins
659.	H.	N. E. corner State and Westminster streets.	Perkins
660.	H.	Buckingham street, east side, front of No. 69.	Chapman
661.	H.	N. E. corner Sherman and State streets.	Perkins
662.	H.	S. E. corner Sherman and McKnight streets.	Chapman
663.	H.	S. E. corner Sherman and Bay streets.	Chapman
664.	H.	S. E. corner Catharine and Bay streets.	Chapman
665.	H.	N. E. corner Catharine and McKnight streets.	Chapman

No.	High or Low.	Location.	Make.
666.	H.	Catharine street, east side, front of No. 71.	Chapman
667.	H.	Catharine street, east side, front of No. 37.	Chapman
668.	H.	State street, south side, at Winchester park engine house.	Chapman
669.	H.	State street, north side, at N. E. R. R., 6″ S. con.	Chapman
670.	H.	Chapin street, east side, midway.	Chapman
671.	H.	Marion street, west side, south end.	Chapman
672.	H.	N. E. corner Bowles and McKnight streets.	Chapman
673.	H.	Bowles street, east side, midway Bay and McKnight.	Chapman
674.	H.	S. E. corner Bowles and Bay streets.	Chapman
675.	H.	Welcome place, east side, end of pipe.	Chapman
676.	H.	Marion street, east side, midway.	Chapman
677.	H.	N. W. corner McKnight street and Girard avenue.	Chapman
678.	H.	S. E. corner Bay street and Girard avenue.	Chapman
679.	H.	Clifford street, south side, midway.	Chapman
680.	H.	Bay street, south side, front of No. 101.	Chapman
681.	H.	Dawes street, west side, midway.	Chapman
682.	H.	S. E. corner Bay street and Oak Grove avenue.	Chapman
683.	H.	Cambridge street, east side, front of No. 45.	Chapman
684.	H.	Cambridge street, east side, opposite No. 84.	Chapman
685.	H.	Andrew street, east side, midway.	Chapman
686.	H.	Hayden street, east side, midway.	Perkins
687.	H.	N. E. corner State and Andrew streets.	Perkins
688.	H.	Montrose street, east side, midway 6″.	Chapman
689.	H.	Mapledell street, N. E. corner State, 6″ S. con.	Chapman
690.	H.	Mapledell street, S. E. corner Burr, S. con.	Chapman
691.	H.	Oak Grove avenue, N. E. corner State street, 6″ S. con.	Chapman
692.	H.	College avenue, S. E. corner Shattuck.	Chapman
693.	H.	College avenue, east side, midway State street and Shattuck avenue.	Chapman
694.	H.	State street, north side, N. E. corner College avenue.	Chapman
695.	H.	Maynard avenue, west side, near State street.	Chapman
696.	H.	Willard avenue, west side, front of No. 42.	Chapman
697.	H.	State street, north side, midway Willard avenue and Cortland street.	Chapman
698.	H.	Cortland street, west side, midway.	Chapman
699.	H.	Dresden avenue, east side, midway, 6″ S. con.	Chapman

No.	High or Low.	Location.	Make.
700.	H.	State street, north side, opposite Colonial avenue.	Chapman
701.	H.	S. E. corner State and Benton streets.	Chapman
702.	H.	State street, north side, front of Alden Warner's.	Chapman
703.	H.	Boston road, north side, near Jasper street, 6″ S. con.	Chapman
704.	H.	Coleman street, east side, 388 feet south of Boston road, 6″ S. con.	Chapman
705.	H.	Denver street, east side, end of pipe.	Chapman
706.	H.	Benton avenue, N. E. corner Benton street, 6″ S. con.	Chapman
707.	H.	Benton street, N. E. corner Wilbraham road, 6″ S. con.	Chapman
708.	H.	Wilbraham road, front of House of Good Shepherd, 6″ S. con.	Chapman
709.	H.	Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.	Chapman
710.	H.	Carlisle avenue, east side, end of pipe, 6″ S. con.	Chapman
711.	H.	Norfolk street, S. E. corner Wilbraham road.	Chapman
712.	H.	Norfolk street, east side, end of pipe.	Chapman
713.	H.	Suffolk street, east side, end of pipe.	Chapman
714.	H.	Colonial avenue, N. E. corner Wilbraham road, 6″ S. con.	Chapman
715.	H.	Middlesex street, corner Wilbraham road.	Chapman
716.	H.	Wellington street, east side, end of pipe, 6″ S. con.	Chapman
717.	H.	Reed street, N. E. corner Wilbraham road.	Chapman
718.	H.	N. E. corner Wilbraham road and College street.	Chapman
719.	H.	Westford avenue, S. E. corner Wilbraham road, 6″ S. con.	Chapman
720.	H.	Northampton avenue, S. E. corner Wilbraham road.	Chapman
721.	H.	Northampton avenue, east side, at No. 49.	Chapman
722.	H.	Northampton avenue, east side, opposite No. 108.	Chapman
723.	H.	Westford avenue, east side, opposite Gunn square, 6″ S. con.	Chapman
724.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.	Chapman
725.	H.	King street, N. W. corner Westford avenue, 6″ S. con.	Chapman
726.	H.	Wilbraham avenue, N. E. corner King street, 6″ S. con.	Chapman

No.	High or Low.	Location.	Make.
727.	H.	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.	Chapman
728.	H.	Wilbraham avenue, east side, opposite Holyoke Paper Co.'s shop.	Perkins
729.	H.	Wilbraham avenue, east side, north of Beverly street.	Chapman
730.	H.	Wilbraham avenue, east side, front of No. 25.	Chapman
731.	H.	S. E. corner Waltham avenue and Wilbraham road.	Chapman
732.	H.	S. W. corner Colton street and Wilbraham road.	Chapman
733.	H.	S. W. corner Wilbraham road and Eastern avenue.	Chapman
734.	H.	S. E. corner State and Winchester streets.	Chapman
735.	H.	S. E. corner State and Hancock streets.	Perkins
736.	H.	N. E. corner Monroe and Hancock streets.	Chapman
737.	H.	Monroe street, north side, front of No. 72.	Perkins
738.	H.	N. W. corner Monroe street and Eastern avenue.	Chapman
739.	H.	N. W. corner Monroe and Colton streets.	Chapman
740.	H.	S. W. corner Colton and Union streets.	Chapman
741.	H.	S. W. corner Union street and Eastern avenue.	Chapman
742.	H.	Union street, south side, front of No. 709.	Chapman
743.	H.	Union street, south side, opposite No. 660.	Chapman
744.	H.	S. E. corner Union and Hancock streets.	Matthews
745.	H.	N. W. corner Hancock and Quincy streets.	Chapman
746.	H.	Quincy street, north side, opposfte No. 181.	Chapman
747.	H.	Quincy street, north side, front of No. 230.	Chapman
748.	H.	N. W. corner Quincy street and Eastern avenue.	Chapman
749.	H.	N. W. corner Quincy and Colton streets.	Chapman
750.	H.	N. W. corner Tyler and Colton streets.	Chapman
751.	H.	S. W. corner Tyler street and Eastern avenue.	Chapman
752.	H.	Tyler street, north side, front of No. 220.	Chapman
753.	H.	Tyler street, north side, opposite No. 183.	Chapman
754.	H.	N. W. corner Hancock and Tyler streets.	Matthews
755.	H.	N. W. corner Hancock street and Pendleton avenue.	Perkins
756.	H.	Pendleton avenue, north side, opposite No. 163.	Chapman
757.	H.	Pendleton avenue, north side, opposite No. 209.	Chapman
758.	H.	N. W. corner Pendleton and Eastern avenues.	Chapman
759.	H.	Beacon street, south side, at Colton.	Chapman
760.	H.	King street, N. W. corner Logan.	Chapman
761.	H.	N. W. corner Eastern avenue and King street.	Chapman
762.	H.	King street, north side, front of No. 184.	Chapman

No.	High or Low.	Location.	Make.
763.	H.	King street, north side, opposite Nelson avenue.	Chapman
764.	H.	N. E. corner King and Hancock streets.	Matthews
765.	H.	N. W. corner Lebanon street and Nelson avenue.	Chapman
766.	H.	N. W. corner Lebanon street and Merrick avenue.	Chapman
767.	H.	Eastern avenue, east side, opposite Lebanon street.	Chapman
768.	H.	N. W. corner Granville and Logan streets.	Chapman
769.	H.	N. W. corner Olive and Logan streets.	Chapman
770.	H.	N. W. corner Ladd and Logan streets.	Chapman
771.	H.	Collins street, near N. W. corner Logan.	Chapman
772.	H.	N. W. corner Greene street and Eastern avenue.	Chapman
773.	H.	Greene street, north side, front of No. 88.	Chapman
774.	H.	N. W. corner Greene street and Nelson avenue.	Chapman
775.	H.	N. E. corner Greene and Hancock streets.	Matthews
776.	H.	Alden street, north side, front of No. 24.	Chapman
777.	H.	Alden street, north side, front of No. 86.	Chapman
778.	H.	N. W. corner Alden street and Eastern avenue.	Chapman
779.	H.	Alden street, N. W. corner Logan.	Perkins
780.	H.	Alden street, north side, at Hickory, 6″ S. con.	Chapman
781.	H.	Hickory street, N. E. corner Woodbine avenue.	Chapman
782.	H.	Hickory street, north side, opposite Smith & Adams' slaughter house.	Chapman
783.	H.	Manhattan street, N. W. corner Eastern avenue.	Chapman
784.	H.	Manhattan street, north side, midway.	Chapman
785.	H.	N. E. corner Manhattan and Walnut streets.	Chapman
786.	H.	Walnut street, east side, opposite No. 396.	Matthews
787.	H.	Eastern avenue, S. W. corner Marshall place, 6″ S. con.	Chapman
788.	H.	Melrose street, N. W. corner Eastern avenue, 5″ S. con.	Chapman
789.	H.	Melrose street, north side, midway, 5″ S. con.	Chapman
790.	H.	Hickory street, north side, at No. 130, 6″ S. con.	Chapman
791.	H.	Hickory street, north side, at No. 110, 6″ S. con.	Chapman
792.	H.	N. E. corner Hickory and Walnut streets.	Matthews
793.	H.	Allen street, north side, at White.	Chapman
794.	H.	Allen street, north side, near No. 121.	Chapman
795.	H.	Hunt terrace, end of 4″ pipe.	Chapman
796.	H.	Randall avenue, west side, end of pipe.	Chapman
797.	H.	Allen street, north side, opposite No. 228.	Chapman
798.	H.	Allen street, north side, west of N. E. R. R.	Chapman
799.	H.	Allen street, north side, just east of N. E. R. R.	Perkins

No.	High or Low.	Location.	Make.
800.	H.	—Allen street, north side, midway N. E. R. R. and Plumtree road.	Perkins
801.	H.	—Allen street, N. W. corner Plumtree road.	Chapman
802.	H.	—White street, west side, south of Dawson avenue.	Chapman
803.	H.	—Johnson street, north side, near Pasadena avenue.	Perkins
804.	H.	—Bloomfield street, N. W. corner Pasadena avenue, 6″ S. con.	Chapman
805.	H.	—White street, west side, front of No. 74.	Chapman
806.	H.	—White street, west side, opposite church.	Chapman
807.	H.	—Orange street, east of White, end of pipe, 6″ S. con.	Chapman
808.	H.	—Orange street, south side, S. W. corner Ranney.	Chapman
809.	H.	—Orange street, south side, between Revere and Malden, 6″ S. con.	Chapman
810.	H.	—Revere street, N. E. corner Grand avenue, 6″ S. con.	Chapman
811.	H.	—Malden street, N. E. corner Grand avenue, 6″ S. con.	Chapman
812.	H.	—Highland street, N. W. corner Orange.	Chapman
813.	H.	—Noel avenue, N. W. corner Shamrock.	Chapman
814.	H.	—Noel avenue, east side, end of pipe.	Chapman
815.	H.	—Highland street, N. W. corner Shamrock avenue.	Chapman
816.	H.	—S. W. corner Highland and Allen streets.	Chapman
817.	H.	—S. W. corner Mill and Allen streets.	Chapman
818.	H.	—N. E. corner Mill and Central streets.	Matthews
819.	H.	—S. E. corner Hancock and Central streets.	Matthews
820.	H.	—Hancock street, west side, south of Central, at end.	Chapman
821.	H.	—Mill street, south side, opposite Maple.	Chapman
822.	H.	—Cherry street, north side, just west of No. 92.	Chapman
823.	H.	—Cherry street, north side, opposite No. 51.	Chapman
824.	H.	—N. W. corner Cherry and Central streets.	Chapman
825.	H.	—N. E. corner Spruce and Central streets, 6″ S. con.	Chapman
826.	H.	—Spruce street, east side, front of No. 34.	Perkins
827.	H.	—Hancock avenue, N. E. corner Spruce street, 6″ S. con.	Chapman
828.	H.	—Hancock avenue, north side, midway, S. con.	Chapman
829.	H.	—N. W. corner Hancock street and Hancock avenue.	Chapman
830.	H.	—N. W. corner Hancock and Hawthorn streets.	Chapman
831.	H.	—Hawthorn street, north side, midway.	Chapman
832.	H.	—S. W. corner Hancock and Florence streets.	Matthews

No.	High or Low.	Location.	Make.
833.	H.	S. W. corner Florence and Spruce streets.	Matthews
834.	H.	Beech street, east side, midway.	Chapman
835.	H.	Central street avenue, S. W. corner Central street, 6″ S. con.	Chapman
836.	H.	Foster court, west roadway.	Chapman
837.	H.	Foster court, east roadway.	Chapman
838.	H.	Central street, south side, front of No. 319.	Matthews
839.	H.	N. E. corner Pine and Central streets.	Perkins
840.	H.	N. E. corner Pine and Cedar streets.	Matthews
841.	H.	Ashley street, north side, opposite No. 49.	Chapman
842.	H.	Ashley street, north side, front of No. 92.	Chapman
843.	H.	N. W. corner Ashley and Walnut streets.	Chapman
844.	H.	Belgrade place, N. W. corner Walnut street.	Chapman
845.	H.	N. W. corner Cedar and Walnut streets.	Perkins
846.	H.	N. W. corner Lebanon and Hancock streets.	Matthews
847.	H.	Queen street, north side, opposite No. 43.	Chapman
848.	H.	N. W. corner Walnut and James streets.	Matthews
849.	H.	James street, west side, midway.	Chapman
850.	H.	King street, north side, midway Hancock and Walnut.	Chapman
851.	H.	S. E. corner Pendleton avenue and Walnut street.	Perkins
852.	H.	N. E. corner Pendleton avenue and Orleans street.	Chapman
853.	H.	N. E. corner Tyler and Orleans streets.	Perkins
854.	H.	Tyler street, north side, front of Blake Mfg. Co.'s shop.	Perkins
855.	H.	N. E. corner Quincy and Stebbins streets.	Chapman
856.	H.	N. W. corner Quincy and Orleans streets.	Chapman
857.	H.	N. E. corner Quincy and Oak streets.	Perkins
858.	H.	S. W. corner Oak street and Charter avenue.	Chapman
859.	H.	N. E. corner Union and Orleans streets.	Perkins
860.	H.	N. W. corner Union and Stebbins streets.	Perkins
861.	H.	Terrence street, east side, midway.	Matthews
862.	H.	S. E. corner State and Orleans streets.	Matthews
863.	H.	Lillian street, north side, opposite No. 17.	Chapman
864.	H.	State street, north side, midway Benton park.	Perkins
865.	H.	S. E. corner State and Walnut streets, 6″ S. con.	Chapman
866.	H.	N. E. corner Walnut street and Charter avenue.	Perkins
867.	H.	State street, north side, opposite Woodworth avenue, 6″ S. con.	Chapman
868.	H.	State street, north side, near Olivet church.	Matthews
869.	H.	S. W. corner High street and Ingraham avenue.	Perkins

No.	High or Low.	Location.	Make.
870.	H.	Union street, north side, opposite Mulberry.	Perkins
871.	H.	S. W. corner Walnut and Union streets.	Perkins
872.	H.	Dymon street, north side, midway.	Chapman
873.	H.	Walhut street, east side, at Oak.	Perkins
874.	H.	Pine street, east side, opposite No. 55.	Chapman
875.	H.	Pine street, east side, opposite No. 109.	Chapman
876.	H.	Madison avenue, east side, north end.	Chapman
877.	H.	Central street, at Sterns terrace, 6″.	Chapman
878.	H.	S. E. corner Central and Cedar streets.	Matthews
879.	H.	Pine street, north side, opposite No. 239.	Perkins
880.	H.	N. W. corner Maple and Pine streets, 6″.	Perkins
881.	H.	Maple avenue, 350 feet east of Maple street, 6″.	Chapman
882.	H.	Maple street, east side, front of Mrs. S. J. Gordon's.	Matthews
883.	H.	Central street, north side, east of Maple.	Matthews
884.	H.	N. E. corner Maple street and Avon place.	Chapman
885.	H.	Avon place, north side, midway.	Chapman
886.	L.	Maple street, west side, front of No. 140, 6″ S. con.	Chapman
887.	H.	S. E. corner Maple and Mulberry streets.	Chapman
888.	H.	N. E. corner School and Mulberry streets.	Perkins
889.	H.	Ridgewood place, N. W. corner Mulberry street.	Chapman
890.	H.	Ridgewood place, S. W. corner Union street.	Chapman
891.	H.	N. E. corner Union and School streets.	Perkins
892.	H.	N. E. corner Union and Maple streets.	Chapman
893.	L.	Maple street, front of No. 104, 6″ S. con.	Chapman
894.	L.	Maple street, S. W. corner Park, 6″ S. con.	Chapman
895.	H.	Maple street, west side, opposite High.	Chapman
896.	H.	High street, south side, opposite No. 36, 6″ S. con.	Chapman
897.	H.	S. W. corner Maple and Stockbridge streets.	Perkins
898.	H.	S. E. corner Maple and Temple streets.	Chapman
899.	L.	S. E. corner Maple and Temple streets, 6″ S. con.	Chapman
900.	H.	Temple street, south side, front of No. 46.	Chapman
901.	H.	S. W. corner School and Temple streets.	Chapman
902.	H.	N. E. corner High and School streets.	Perkins
903.	H.	Myrtle street, east side, midway.	Perkins
904.	H.	State street, south side, front of No. 345.	Perkins
905.	L.	State street, south side, at High school, 6″ S. con.	Chapman
906.	L.	State street, south side, at Unity church, 6″ S. con.	Chapman
907.	H.	Five Mile pond, at pumping station.	Chapman

INDIAN ORCHARD.

No.	High or Low.	Location.	Make.
1.	H.	N. E. corner Berkshire and Chestnut streets.	Perkins
2.	H.	Hampden street, S. E. corner Chestnut.	Chapman
3.	H.	S. E. Hampden and Myrtle streets.	Perkins
4.	H.	S. W. corner Hampden and Oak streets.	Chapman
5.	H.	S. W. corner Worcester and Oak streets.	Chapman
6.	H.	Worcester street, at engine house, 6″.	Chapman
7.	H.	S. W. corner Worcester and Myrtle streets.	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets.	Chapman
9.	H.	Main street, north side, west end of park.	Perkins
10.	H.	N. W. corner Main and Myrtle streets.	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6″.	Chapman
12.	H.	N. E. corner Main and Oak streets.	Chapman
13.	H.	S. E. corner Water and Oak streets.	Chapman
14.	H.	Center street, north side, 320 ft. east of Oak.	Chapman
15.	H.	Center street, north side, 320 ft. west of Cedar.	Chapman
16.	H.	S. W. corner Main and Pine streets.	Perkins
17.	H.	N. W. corner Worcester and Pine streets.	Chapman
18.	H.	Worcester street, north side, 600 ft. east of Pine, 6″.	Chapman
19.	H.	Main street, south side, at French church, 6″.	Chapman
20.	H.	S. W. corner Water and Cedar streets.	Chapman
21.	H.	N. W. corner Main and Cedar streets.	Perkins
22.	H.	Main street, midway Cedar and Quebec.	Chapman
23.	H.	Main street, north side, N. W. corner Quebec.	Chapman
24.	H.	Milton street, S. E. corner Main, 6″.	Chapman
25.	H.	Milton street, east side, end of pipe, 6″.	Chapman
26.	H.	Beaudry street, east side, end of pipe, 6″.	Chapman
27.	H.	Main street, north side, east of Beaudry, 6″.	Chapman
28.	H.	Main street, near Wilbraham line.	Chapman
29.	H.	Parker street, S. W. corner Main.	Chapman
30.	H.	Parker street, west side, 1,200 ft. south of Main.	Chapman
31.	H.	Parker street, near old schoolhouse, 6″.	Chapman
32.	H.	Parker street, 400 ft. north of Oak, 6″.	Chapman
33.	H.	Parker street, south of railroad.	Chapman
34.	H.	Oak street, near railroad station, 6″.	Chapman
35.	H.	Oak street, east side, opposite John Ferris's.	Chapman
36.	H.	Oak street, east side, opposite No. 194.	Chapman
37.	H.	Oak street, west side, south of Essex.	Chapman
38.	H.	Oak street, S. W. corner Essex.	Chapman

No.	High or Low.	Location.	Make.
39.	H.	—Pasco street, S. E. corner Essex, 6″.	Chapman
40.	H.	—Pasco street, east side, end of pipe.	Chapman
41.	H.	—Pine street, at Chapman Valve works.	Chapman
42.	H.	—N. W. corner Hampshire and Pine streets.	Chapman
43.	H.	—N. E. corner Hampshire and Oak streets.	Chapman
44.	H.	—Berkshire street, north side, west of Oak.	Chapman
45.	H.	—N. W. corner Hampshire and Myrtle streets.	Chapman
46.	H.	—N. E. corner Berkshire and Myrtle streets.	Perkins

FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1
Bridge street, at Water,	1
Central street, opposite Beech,	1
Elm street, at First church,	1
Ferry street, at Main,	1
Hampden street, at Main,	1
Harrison avenue, at Main street,	1
Howard street, at Main,	1
Lyman street, at Dwight,	1
Main street, at Court square,	1
Main street, at Franklin,	1
Main street, near Patton,	1
Main street, at State,	1
Maple street, at Central,	1
Pine street, at Central,	1
Pynchon street, near Water,	1
State street, near Elliott,	1
Walnut street, at Hancock,	1
Water street, opposite Walker,	1
Total,	19

STREET WATERING HYDRANTS

CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

No.	Location.	Service.
1.	Water street, at Worthington,	Low
2.	Cypress street, at Main,	High
3.	Main street, at Hooker school,	High
4.	Fulton street, near Auburn,	Low
5.	North Main street, near Carew,	High
6.	Plainfield street, near John,	Low
7.	North Main street, at Arch,	High
8.	North Main street, near Douglas,	High
9.	North Main street, near Grace,	Low
10.	Alexander street, at North (E),	Low
11.	Chestnut street, at Montmorenci,	Low
12.	North street, at Osgood,	Low
13.	Carew street, at brickyard,	High
14.	Chestnut street, opposite Patton,	Low
15.	Linden street, near Cass,	Low
16.	Chestnut street, near Franklin,	Low
17.	Liberty street, at No. 385,	High
18.	Armory street, at Liberty,	High
19.	Magazine street, at Armory,	High
20.	Armory street, at Grant,	High
21.	Worthington street, at Kibbe avenue,	High
22.	Worthington street, at No. 353,	High
23.	Spring street, near Worthington,	High
24.	Byers street, near Pearl,	High
25.	Dwight street, near Taylor,	High
26.	Dwight street, near Hillman,	High
27.	Sanford street, near Dwight,	Low
28.	Chestnut street, at Edwards,	High
29.	State street, at Byers,	High
30.	State street, at Federal,	High
31.	St. James avenue, at Bay street,	High
32.	Worthington street, at Florida,	High

No.	Location.	Service.
33.	Worthington street, at Thompson park,	High
34.	St. James avenue, at Princeton street,	High
35.	Amherst street, at Princeton,	High
36.	Cambridge street, at Bay,	High
37.	Bay street, at Marion,	High
38.	Bay street, near Buckingham,	High
39.	Hancock street, at State,	High
40.	State street, at Mapledell,	High
41.	State street, at Willard avenue,	High
42.	Wilbraham road, near Northampton avenue,	High
43.	Wilbraham road, at engine house,	High
44.	Monroe street, at Eastern avenue,	High
45.	Eastern avenue, at King street,	High
46.	Eastern avenue, at Alden street,	High
47.	Walnut street, opposite Manhattan,	High
48.	Alden street, at Hancock,	High
49.	King street, at Hancock,	High
50.	Quincy street, at Hancock,	High
51.	Walnut street, at Queen,	High
52.	Pine street, at cemetery gate,	High
53.	Oak street, at Walnut,	High
54.	Union street, at Mulberry,	High
55.	Mulberry street, at Ridgewood place,	High
56.	Maple street, at Central,	High
57.	Pine street, at Central,	High
58.	Pine street, at Maple,	High
59.	Central street, at Spruce,	High
60.	Allen street, at Mill,	High
61.	White street, at No. 50,	High
62.	Dickinson street, at Oakland,	High
63.	Euclid avenue, at Dickinson street,	High
64.	Belmont avenue, at top of hill,	High
65.	Belmont avenue, at Euclid,	High
66.	Belmont avenue, at Oakland street,	High
67.	Garfield street, at Greenleaf (W)	High
68.	Sumner avenue, at Forest Park,	High
69.	Sumner avenue, near Firglade,	High
70.	Magnolia terrace, near No. 77,	High
71.	Spruceland avenue, near Long Hill street,	High
72.	Sumner avenue, near Fort Pleasant,	High

No.	Location.	Service.
73.	Fort Pleasant avenue, near Crescent terrace,	High
74.	Mill street, at Locust,	High
75.	Pine street, at Mill,	High
76.	South street, at Mill river,	High
77.	Main street, at Locust,	High
78.	Adams street, at Main,	Low
79.	Loring street, at Water,	High
80.	Park street, at Willow,	High
81.	Howard street, at Water,	Low
82.	Water street, at Court,	Low

INDIAN ORCHARD.

1.	Myrtle street, S. E. corner Hampshire,	High
2.	Hampshire street, S. W. corner Oak,	High
3.	Worcester street, south side, near Oak,	High
4.	Cedar street, east side, near Main,	High
5.	Main street, S. E. corner Myrtle,	High

Track Hydrants—For Car Sprinklers.

No.	Location.	Service
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street, at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catharine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	King street, near Eastern avenue,	High
14.	Mill street, opposite Lincoln hall,	High
15.	Sumner avenue, opposite car barn,	High
16.	Fort Pleasant avenue, at Crescent terrace,	High
17.	Main street, at Norwood,	Low
18.	Maple street, at Park,	High
19.	Elm street, at Court square,	High

WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Bradford street, at Plainfield,	1	
Court street, at Court square,	1	
Liberty street, at Armory,	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Water Shops,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State street, at Indian Orchard road — opposite Catholic cemetery,	1	
Sumner avenue, at Beechwood,	1	
Water street, at Court,	1	
Worthington street, east of Dwight,	1	
Total,		12

PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,	1	
Calhoun park, Chestnut street, between Calhoun street and Jefferson avenue (pond; no fountain),	1	
Clarendon park, Clarendon street, at Bay,	1	
Concord terrace park, Concord terrace,	1	
Dartmouth park, Dartmouth street, at Bay,	1	
Forest park, Sumner avenue (no fountain),	1	
Kibbe park, Federal street, at Armory,	1	
Magnolia terrace park, Magnolia terrace,	1	
McKnight park, Buckingham street, at Bay,	1	
Mill street park, Mill street, at Pine,	1	
Stearns park, between Bridge and Worthington streets,	1	
Thompson park, St. James avenue, at Worthington street,	1	
Winchester park, State street, at Wilbraham road (Willard drinking fountain),	1	
Total,		13

TWENTY-SEVENTH

ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

1900

City of Springfield.

TWENTY-SEVENTH ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT TO THE BOARD,

FOR THE YEAR 1900.

PRESS OF
SPRINGFIELD PRINTING AND BINDING CO.
SPRINGFIELD, MASS.
1901.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., December 31, 1900.

To the City Council of the City of Springfield:—

The Board of Water Commissioners herewith submits for your consideration its twenty-seventh annual report, covering the fiscal year ending December 10, 1900, and including the reports of the Water Registrar and the Superintendent to the Board.

THE QUESTION OF NEW SUPPLY.

As is well known, your Board, with the approval of the City Council, last year petitioned the Legislature for authority to take a new supply of water from the east branch of the Westfield river at a point northeast of the village of Huntington, and as required by statute (Chapter 375, of the Acts of 1888), on January 24, 1900, submitted to the State Board of Health an outline of the plan then proposed for obtaining a supply from this source.

Pending the consideration of the petition by the legislative committee the results of the investigations made by Engineer Blake were submitted to the State Board of Health, which Board shortly thereafter transmitted to this department the following reply to the application for advice:—

Commonwealth of Massachusetts.

OFFICE OF THE STATE BOARD OF HEALTH,
STATE HOUSE, BOSTON.
May 11, 1900.

To the Water Board of the City of Springfield,
C. L. GOODHUE, *Chairman:—*

GENTLEMEN:—The State Board of Health received from you on July 24, 1899, an application requesting the advice of the Board as to the present and future sources of water supply of Springfield, taking into consideration the feasibility of improving the water of Ludlow reservoir by various methods, of taking water from the west branch of the Swift river, of taking water from the Westfield river, and also from other sources. Subsequently you caused the water of Ludlow reservoir to be drawn out to afford an opportunity for an examination of the bottom of the reservoir, and caused soundings to be made showing the depth of mud and organic matter in the bottom of the reservoir. On January 24, 1900, you submitted the following outline of your proposed plan for supplying water to Springfield:—

"It is proposed to take water in such quantity as may be needed for the future supply of the city from the north branch of the Westfield river or any of the tributaries of that branch, at points above Norwich Bridge, so called, in the town of Huntington, by constructing such dam or dams as may be necessary for the purpose of creating storage reservoirs for equalizing the variable flow of the streams impounded and conveying the water from such reservoirs in a cast-iron main or mains of proper size through the easterly part of the village of Huntington to and in part through the state highway leading down the valley of the Westfield river through the towns of Russell, Westfield, and West Springfield to the city of Springfield, crossing the Connecticut river on a suitable bridge or bridges.

"It is proposed to remove all objectionable matter found within any storage basin area and to exercise all reasonable care to prevent future pollution of the water in any case.

"The elevation of the bed of the north branch at the confluence of its two main tributaries next above Norwich Bridge is about 395 feet above mean sea level or about 20 feet above the overflow level of the Ludlow reservoir, the present principal source of supply of Springfield.

"By the construction of dams the water may be raised to an elevation of 450 feet above mean sea level.

"The main tributaries of this north branch of the Westfield river consist of an easterly branch flowing southerly through the towns of Savoy, Windsor, Cummington, Chesterfield, and Worthington, and a westerly branch flowing southerly through the towns of Peru, Worthington, Middlefield, and Chester.

"The watershed areas above the confluence of these two branches are, for the easterly branch a little more than 160 square miles; for the westerly branch, about 50 square miles.

"The city of Springfield will offer no objection to the reservation of rights in this stream or its tributaries to the adjacent cities of Holyoke and Northampton, provided it (the city of Springfield) is granted the unrestricted right to take from these sources any and all water it may need in the future for all the various uses of its inhabitants and is protected in its investments made for the purpose."

Later a report and plans by Mr. Percy M. Blake, civil engineer, giving the results of investigations with reference to the present and proposed water supply of Springfield, were submitted, and information was furnished as to the areas within the watershed of the Westfield river which it is proposed to reserve for the water supply of the city of Holyoke.

In response to your applications the Board has examined Jabish brook, Ludlow reservoir, and other sources now used for the supply of Springfield, and has caused an examination of the proposed sources to be made by its engineer and samples of the water to be analyzed.

The Board has also examined the results of previous investigations of your present sources of supply and has carefully considered the plans and information submitted.

Your present source of supply,—Ludlow reservoir,—furnishes a water which has nearly always been very objectionable on account of an offensive taste and odor caused by the presence of large numbers of microscopical organisms, and there is no indication that the quality of the water has improved since the works were constructed twenty-five years ago.

The trouble is doubtless caused principally by the great deposits of mud, stumps, and organic matter in the bottom of the reservoir, but the character of the watersheds of the streams which feed the reservoir is not satisfactory.

The watershed of the principal feeder,—Jabish brook,—contains a storage reservoir and several mill-ponds, which have not been properly prepared for the storage of water, together with considerable areas of swamp land, and the water takes up large quantities of organic matter both from the ponds and the swamps.

The discharge of this water into the reservoir during the past few years has apparently made its condition worse.

Three ways of improving the water of Ludlow reservoir have been suggested: first, by removing all of the mud and organic matter from the area covered with water when the reservoir is full; second, by removing the mud and organic matter from the portions where the depth of mud is small and covering with sand the places where the depth is so great that the cost of covering would be less than the cost of removal; third, by filtering the water, leaving the reservoir practically in its present state.

The Ludlow reservoir with its tributary watersheds and canals, if the capacity of the latter were large enough to convey all of the flow of the streams which are tapped by them into the reservoir, would be sufficient, judging from the growth of the city, to supply Springfield until about the year 1923, and even allowing a considerable loss of water from various causes this source would probably be sufficient for nearly twenty years.

But under present conditions the capacity of the canals is not sufficient to convey the higher flows of the tributary streams into the reservoir, and large quantities of water are lost.

To secure the full capacity of the present works and to provide for a supply from Ludlow reservoir sufficient for twenty years the capacity of the canal system must be greatly enlarged.

After the full capacity of Ludlow reservoir and its present tributary watersheds has been reached it appears that the only available source from which a supplementary supply can be obtained is the west branch of Swift river, the watershed of which lies easterly from the watershed of Jabish brook.

The water of Swift river can be conveyed into Ludlow reservoir, either by a conduit 17.4 miles long which would convey the water by gravity, or by pumping the water a distance of about two and one-half miles to an elevation of nearly 200 feet.

By either plan a quantity of water could be obtained which would, in conjunction with Ludlow reservoir, be capable of supplying the city of Springfield probably for the next forty years.

The first plan of improving Ludlow reservoir suggested above,—that of removing the mud from the bottom of the reservoir completely,—would be an expensive one in any case. There is, moreover, much doubt as to the feasibility of removing this mud completely and disposing of it in a satisfactory manner, and if the plan should be

tried complications might arise which would make it impracticable to do the work as thoroughly as it ought to be done. In connection with this plan it would be essential to improve the quality of the water from the watersheds which now supply the reservoir and from which large quantities of organic matter now find their way into the reservoir, and to enlarge the capacity of the canals.

If it were feasible to thoroughly clean all mud and organic matter from the Ludlow reservoir and to drain all swamps and clean the bottoms of the ponds and reservoirs on its tributary watersheds, or remove their dams and drain them, a very great improvement would be made in the quality of the water over its condition at present, and, as already stated in a previous reply of the Board, the indications are, judging from experience in other places, that the water would generally be of excellent quality; but it might still at times be affected by the presence of organisms which impart to water a disagreeable taste and odor.

The second method of improving this reservoir that has been considered is to remove the mud and organic matter from portions where its depth is not excessive, and cover the remainder with sand.

The experience in covering a portion of the bottom of this reservoir with sand to a depth of eighteen inches twenty-five years ago was a satisfactory one in that the sand has remained in place to the present time, and this method of treating such deposits of organic matter in storage reservoirs is now being tried in other places in the state. But in the main portion of Ludlow reservoir the conditions have evidently changed materially since the ground was first cleared for the storage of water, and there is evidence that a considerable portion of the roots and fibrous matter in the upper layer of the mud has become decayed. The condition of the bottom is such at the present time that it seems very doubtful whether it would support efficiently a layer of sand of such depth as would prevent the water from coming in contact with the organic matter beneath, unless some extra provision should be made for supporting the covering material. If the work could be successfully performed it would still be necessary to clear the remaining portions of the reservoir and improve the watersheds of tributary streams and enlarge the canals, as in the case of the plan previously considered, and the results, as in the former case, might not be wholly satisfactory in improving the quality of the water.

The third method suggested of securing a supply of good water

TWENTY-SEVENTH

ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

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City of Springfield.

TWENTY-SEVENTH ANNUAL REPORT

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TO

THE CITY COUNCIL,

TOGETHER WITH THE

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1901.

from Ludlow reservoir is to filter the water through prepared beds of sand.

In a previous reply of the Board in 1897, in response to a request from your Board for advice as to improving the quality of the water of Ludlow reservoir, the Board advised you to construct experimental filters in the vicinity of the reservoir, and make experiments upon the filtration of this water during that portion of the year when the water contains an excessive amount of vegetable matter, beginning about the first of May and continuing until nearly the end of the year. The Board offered to assist you in these investigations by advising you as to the construction and operation of experimental filters and by making all necessary examinations of water.

It does not appear that any investigations such as were suggested have been made, nor has the Board information as to any place where such a water has been effectually purified by filtration. Moreover, no investigations appear to have been made upon the purification of a water of this sort which would furnish information as to the feasibility of purifying it effectually and as to the design and probable cost of the necessary works.

The feasibility of building a dike around the portion of Ludlow reservoir in which the depth of mud is excessive and cleaning thoroughly the remaining portion of the reservoir has also been considered. By this plan the capacity of the reservoir would be materially reduced and a large portion of the reservoir that would remain would be undesirably shallow, and with this condition there would be much danger that the water would still be affected by the presence of organisms which would give it a disagreeable taste and odor.

The plan proposed in your recent application for securing a suitable supply of water for the city of Springfield is to take water from the North branch of the Westfield river, so called, above Norwich Bridge in the town of Huntington by the construction of one or more storage reservoirs on the main stream or one of its tributaries, and a pipe line to convey the water to the city.

The portion of the Westfield river described drains an extensive but very sparsely settled area including several very small towns in which the population has been steadily decreasing for many years.

The sources of possible pollution of the water on this area are comparatively few and it should not be difficult to protect the purity of the water supply.

Upon the plans accompanying the report of your engineer two

possible sites for storage reservoirs are shown in considerable detail, one located on the stream called the Middle branch of the Westfield river a short distance above its confluence with the East branch, and the other upon the East branch just above the mouth of the Middle branch. Your investigations show that these reservoirs would be of about the same capacity, but the reservoir on the Middle branch would be somewhat more expensive to construct than the reservoir on the East branch.

Several samples of water have been collected since September last, both from the main stream and the Middle branch, at the sites of the proposed reservoirs, and the results of analyses of these samples show that the waters of both streams are soft, generally clear and but little colored, and of excellent quality for the purpose of a public water supply. At times, after heavy rains, the water of both streams is more turbid and colored and contains a larger amount of organic matter than usual, but by the construction of a storage reservoir the variation in the quality of the water at different times would be greatly lessened. Of the two waters, that of the Middle branch is slightly better in quality than that of the East branch, but the difference is not great.

In the absence of definite records of the flow of the streams in this territory in very dry years, it is difficult to form a satisfactory estimate of the probable yield of the proposed reservoirs.

So far as can be judged from our present information the proposed reservoir on the Middle branch will yield sufficient water for the supply of the city for many years, but on the other hand it is possible that its capacity might soon be reached if this source alone should be used for the supply of the city. The East branch, with the proposed storage reservoir, would furnish a much larger quantity of water than the Middle branch, and the yield of the East branch with the proposed reservoir would be considerably greater than the quantity now required for the supply of Springfield, even allowing that about 37 square miles of watershed may be diverted for the supply of the city of Holyoke.

But the city of Springfield is growing rapidly and it is probable that if the proposed works are built the town of West Springfield can obtain a supply from them more satisfactorily than in any other way, and in the future it is not unlikely that other districts in the immediate neighborhood of Springfield may find it desirable to secure a supply in connection with the Springfield works.

Under the circumstances it will probably be necessary at some future time for the city to use the water of both branches and there

would be much advantage in making both branches available for use in the beginning.

If all areas to be flooded with water by the construction of reservoirs should be thoroughly cleaned by the removal of all mud and organic matter, the Board is of the opinion that a water of excellent quality would be obtained from each branch which would not be subject to disagreeable tastes and odors, and that the proposed source of supply would be capable of furnishing all the water that Springfield would require for a very long time in the future, even allowing that about 37 square miles of watershed might be diverted for the supply of the city of Holyoke.

The cost of a supply from the Westfield river would probably be somewhat greater than the cost of filtering the water of Ludlow reservoir and providing an additional supply from Swift river, but considering all the circumstances the Board is of the opinion that the East and Middle branches of the Westfield river, which form the so called North branch, are appropriate and would be satisfactory sources of water supply for the city of Springfield.

By order of the Board,

SAMUEL W. ABBOTT, *Secretary.*

In view of the magnitude of the proposed undertaking, and from a feeling that the city had made so large an investment in the present sources of supply as to warrant further and exhaustive investigations of the possibilities and cost of so improving these present sources as to make the water furnished by them suitable for use, it was decided to be for the best interests of the city to refer the petition to the next Legislature with the understanding that this department should proceed to experiment with the filtration of the Ludlow water and obtain such additional data regarding the cost of filtration, developing and enlarging the capacities of the present sources of supply, and other information as would result in placing before the State Board of Health and your honorable body a comprehensive statement of all the facts which the importance of the question demands before authorizing the large expenditure of money required for the satisfactory settlement of the whole problem.

Accordingly such reference of the petition was made and it is now on file at the State House, awaiting such action upon the question as the outcome of the study now being made may suggest.

On June 25 your Board applied to the State Board of Health for advice concerning the design and construction of an experimental plant for testing different modes of filtration of the Ludlow water, the application being as follows:—

"The City of Springfield desires the advice and coöperation of your Board in the matter of the experimental filtration of the waters of the Ludlow and Jabish brook sources.

"It is the intention of the city to construct an experimental filter plant of such design and capacity as may meet the approval of your Board, and to maintain and operate such plant under all climatic conditions, for such length of time, and in such manner as your Board may suggest, with a view to determining conclusively:—

"1st.—Whether or not these waters can, by filtration, be made always suitable in quality for the future permanent uses of the city;

"2d.—Whether or not, from all the results reached by the experiments, the purification by filtration of all the water which these sources may by further development of capacity be made to yield would be the most economical, practicable, and appropriate method of providing the city with a satisfactory supply of water for the period of years extending forward to the time when the limit of the enlarged capacity of the sources will be reached."

While your Board realized that such tests, to be of conclusive value, would necessarily be expensive, upon our recommendation the City Council in July passed the following order:—

"That the Board of Water Commissioners of the City of Springfield be, and hereby is, authorized to expend a sum not exceeding twelve thousand dollars ($12,000) for the purpose of making experiments in the filtration of the present water supply at Ludlow; all expense thereunder to be charged to the Water Works account."

This order was approved July 19th, and acting under the authority thereof and following the guidance of the State

Board of Health the experimental plant has been constructed near the Ludlow dam and been put in operation.

This plant consists of a small pumping station located some 1,500 feet above the dam and arranged so that water may be taken from either the Ludlow reservoir or the canal conveying the Broad brook and the Jabish brook waters; a four-inch cast-iron force main through which these waters may be alternately pumped; two circular tanks or reservoirs, each 17 feet in diameter with a depth of water of 15 feet; two gravity sand filters each having a surface area of one two-hundredth of an acre, provided with under drains, regulating apparatus for controlling the inflow of water, effluent pipe and glass gauges for indicating the losses of head resulting from the filtration process, one of these filters being located at a higher elevation than the other thus permitting the filtered water to flow on to the top of the lower filter for secondary treatment if experiments indicate the same to be necessary.

Both filters are supplied through ample pipe connections with the storage tanks or reservoirs, all the piping being controlled by valves so located as to permit of an interchange of either raw water or method. The two filters are protected against freezing by a heavy covering of sods and sand supported by heavy plank roofing overlaid with a double thickness of water-tight paper, the valves and gauges attached to the filters being inclosed in shelters provided with means of heating, if necessary, in the coldest weather.

The filtered water is conducted directly into a building constructed for the purpose and divided into test-room and laboratory.

In the test-room measurements of flow and yield of the filters are to be made; also special experiments in filtration, the filtering capacities of different materials and different arrangements of material, the removal of colors and odors from the water, and chemical examinations and tests. The laboratory

will be devoted to the standardizing of sand and such other materials as may be used in the experiments, the keeping of records, etc.

The design, construction, and operation of this experimental plant were placed in charge of Mr. Blake, who has carried out in the work the suggestions of the State Board of Health.

By agreement with that Board a chemist will soon be assigned to this experiment station, and determinations of the effect of filtration upon the waters treated will be made on the spot, the salary of the chemist being paid by the State Board: the use of the apparatus and the materials used are to be paid for by this department.

Your Board is confident that this experimental filtration will be worth to the city all that it costs. If it should be demonstrated that the waters of the Ludlow reservoir and the Jabish brook can be satisfactorily purified at all seasons of the year and under all conditions of storage at an expense for construction and annual maintenance less than that involved in taking the Huntington supply, the saving to the city will well be worth the delay and cost of the experiments.

We have no further opinions to express at this time; as soon as results conclusive to the State Board of Health are reached and a final communication received from that Board, we shall submit to your honorable body all the facts, figures, and conclusions which have been gathered and obtained by the investigations of our engineer and from experiments made at Ludlow.

We believe that your honorable body and our fellow citizens will understand and realize that your Commissioners are determined that the study now being made shall be so complete and thorough as to remove all doubts as to the best course for the city to pursue in regard to a better water supply.

QUALITY OF SUPPLY.

The general quality of the water supplied during the past year has been above the average, due to a large extent to the emptying of the Ludlow reservoir during the season of 1899 and the refilling of the same with fresh water.

The water from this reservoir and Jabish brook has been the entire supply of the city throughout the summer and fall season, it having been unnecessary to draw from the auxiliary supplies at either Chapin or Five Mile ponds during that period.

In the early part of January, however, after the extreme cold weather of December, 1899, had so frozen up the surface waters of Jabish brook as to retard the flow of the brook, and the Ludlow reservoir not having refilled at that time, it was deemed prudent to again start the pump at Five Mile pond.

This pump had been stopped on the second day of November, previous, and at that time this pond was furnishing water of a fair quality, and it was reasonable to suppose that with the ensuing cold weather the water in January should be as good if not better than in November.

The pump at this pond was therefore started again at three o'clock, Thursday afternoon, January 4, 1900, and when this supply had reached the city the water was found to be extremely offensive, both in odor and taste, and apparently full of oily and fishy matter!

The pump was immediately shut down on the sixth day of January, having been in operation only forty-four hours, and samples of the water sent to the State Board of Health for analysis, while the pipe system was thoroughly flushed.

The trouble proved to be due to the presence of a great number of colonies of "Synura," a very low form of organism which thrives best in winter and is rarely found in the warmer months of the year.

The biologist of the State Board of Health stated that the

sample of water sent from Five Mile pond at this time was one of the most remarkable samples he ever saw, since it contained almost a pure culture of Synura with practically nothing else!

After shutting down the pump it required several days to entirely remove the tainted water from the pipe system.

From subsequent analyses made by the State Board of Health it was found that the trouble was of short duration, the organism having disappeared from the pond by the following spring.

However, no water has since been taken from this supply.

CONSTRUCTION.

The total amount *charged* to this account during the past year was $16,307.02, which includes the following principal expenditures, viz.: $6,362.20 for extension of distribution mains 9,880 feet, making a total of 144.69 miles of pipe in the water works system; for the proper investigation of a possible new supply from the Westfield river and the presentation of the matter before the legislature of 1900, the sum of $5,003.76; and $4,037.19 on the experimental filtration plant at the Ludlow reservoir.

During the year there has been *credited* to construction account the total sum of $3,323.95, which includes the sale of a tract of land on Armory street for a schoolhouse lot for $3,000, and other smaller sales of material, etc., all of which were originally charged to construction account when purchased for reservoir purposes.

This, therefore, makes the *net total amount added* to this account during the year of $12,983.07.

The following tabulation shows the amount and cost of the distribution mains extension in each year since 1890:—

STATEMENT.

(*Feet totals are taken from annual tables in Superintendent's Report.*)

Extensions in 1891,	were 14,927	feet,	cost	$10,396 00
" " 1892,	" 24,853	"	"	16,253 21
" " 1893,	" 25,079	"	"	17,090 71
" " 1894,	" 20,280	"	"	13,491 16
" " 1895,	" 32,368	"	"	25,302 47
" " 1896,	" 23,521	"	"	21,018 62
" " 1897,	" 39,108	"	"	22,349 41
" " 1898,	" 28,810	"	"	16,042 36
" " 1899,	" 20,851	"	"	10,069 22
" " 1900,	" 9,880	"	"	6,362 20

MAINTENANCE.

The total amount charged to maintenance account during the past year was $116,014.24, distributed as follows:—

GENERAL MAINTENANCE.

Management and repairs (operating, etc.),	$24,362 21	
Interest on bonds,	89,000 00	
Taxes on reservoir property,	248 64	
		$113,610 85

SPECIAL MAINTENANCE.

Engineering (mapping, etc.),	$188 62	
Damages (from broken mains, accidents, etc.),	547 12	
Pumping station, Chapin pond (operating, acct. of 1899 additional, and care and repairs),	64 11	
Pumping station, Five Mile pond (operating and care and repairs),	144 62	
Examination of Ludlow reservoir bottom (acct. of 1899 additional),	7 50	
Distribution mains—renewals,	1,451 42	
		2,403 39
Total,		$116,014 24

The net addition to the number of service connections during 1900 is 308, making a total of 9,764, connected to the distribution system.

The following summary shows the total number and the number of net additions each year since 1884:—

In 1885,	Total	number	service	taps,	4,237	Net	increase,	224
" 1886,	"	"	"	"	4,519	"	"	282
" 1887,	"	"	"	"	4,819	"	"	300
" 1888,	"	"	"	"	5,147	"	"	328
" 1889,	"	"	"	"	5,497	"	"	350
" 1890,	"	"	"	"	5,770	"	"	273
" 1891,	"	"	"	"	6,181	"	"	411
" 1892,	"	"	"	"	6,633	"	"	452
" 1893,	"	"	"	"	7,000	"	"	367
" 1894,	"	"	"	"	7,482	"	"	482
" 1895,	"	"	"	"	7,900	"	"	418
" 1896,	"	"	"	"	8,298	"	"	398
" 1897,	"	"	"	"	8,721	"	"	423
" 1898,	"	"	"	"	9,070	"	"	349
" 1899,	"	"	"	"	9,456	"	"	386
" 1900,	"	"	"	"	9,764	"	"	308

FINANCIAL.

The total cash receipts of the department from water rates, services, repairs, sales, etc., amounted to $243,677.00.

The following statement shows the annual increase since 1885 in the total amounts charged and collected each year *for water only.*

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

YEAR.	Water Rates Charged. (*During the year, only.*)		Water Rates Collected.*	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	. . .	$90,848 05	. . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890**	133,553 28**	7,332 56	129,913 27**	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58
1900	225,798 96	5,125 82	218,741 57	5,680 33

BONDED DEBT.

7 per cent. bonds, falling due as follows:—

April 1, 1894 to April 1, 1902, $25,000 annually (issued 1873–1874),	. . .	$225,000 00
April 1, 1903 (issued 1873–1874),	. . .	775,000 00
Total issue of 1873 and 1874,	. . .	$1,000,000 00

Less Bonds paid as follows:—

April 1, 1894,	$25,000 00	
April 1, 1895,	25,000 00	
April 1, 1896,	25,000 00	
April 1, 1897,	25,000 00	
April 1, 1898,	25,000 00	
April 1, 1899,	25,000 00	
April 1, 1900,	25,000 00	
		175,000 00
Balance of 7 per cent. bonds outstanding,	.	$825,000 00

*For amounts abated and uncollected, see detail in Registrar's report.

**Amounts for 1890 are estimated at $20,000 less than actual totals for that year, which include 15 months water rates, instead of 12, due to change of time in rendering the semi-annual bills.

Amount brought forward,		$825,000 00
6 per cent. bonds, falling due April 1, 1905 (issued 1875),		200,000 00
3½ per cent. bonds, falling due October 1, 1920 (issued 1890),		125,000 00
4 per cent. bonds, falling due as follows :—		
April 1, 1913 (issued 1893), .	$200,000 00	
October 2, 1923 (issued 1893), .	150,000 00	
Total issue of 1893, ...		350,000 00
Net total bonds outstanding, ...		$1,500,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1899, ...	$315,796 02
Surplus transferred from water works receipts of 1899, .	63,027 05
Total for investment to April 1, 1900, . .	$378,823 07
Less amount paid City Treasurer to meet 7 per cent. bonds due April 1, 1900, ...	25,000 00
Total for investment from April 1, 1900, . .	$353,823 70
Unexpended balance from Ludlow Main No. 2 Fund, transferred April 20, 1900 to sinking fund, ...	392 27
Net interest on investments during 1900, ...	7,280 26
Balance in hands of Sinking Fund Commissioners, December 10, 1900, ...	$361,495 60
Available surplus from water works receipts of 1900, .	100,366 30
Total amount available, December 10, 1900, .	$461,861 90

CLAIMS.

There has been paid the past year the sum of $328.62 in settlement of the land damage claims of Murdock and Slate, in accordance with an adjustment agreed upon outside of the courts, including legal expenses on account of same, and as noted in our last report.

This closes up all the claims made in consequence of the diversion of the waters of Jabish brook, excepting those of the mill owners on the Chicopee river. The only progress made during the year in the latter cases has been a mutual agreement to accept a nominal award of the County Commissioners and thus have but one trial.

It is expected that these cases will be tried the coming year.

DETAILS.

The details of the finances and condition of same, and the work of the department during the past year, will be found in the reports of the Water Registrar and of the Superintendent submitted to the Board, which reports are hereto annexed and are made a part of the report of the Board to the City Council.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
WILLIAM P. HAYES,
Board of Water Commissioners.

BOARD OF ALDERMEN, January 3, 1901.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, January 3, 1901.

Read and concurred.

H. S. GILBERT, *Clerk.*

January 4, 1901.

Presented to the mayor for approval.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE,
SPRINGFIELD, MASS., January 4, 1901.

Approved.

WILLIAM P. HAYES, *Mayor.*

WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:—

GENTLEMEN:—The following report of the Water Registrar for the fiscal year ending December 10, 1900, is herewith respectfully presented:—

For convenient reference the statements given are separated into three principal divisions, viz.:—

1.—General Financial.
2.—Detail Financial.
3.—Miscellaneous.

1.—GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

(Exclusive of Ludlow Main No. 2 Fund.)

To collections paid City Treasurer by City Collector,			$243,677 00
By approved bills and pay rolls paid by City Treasurer, as follows:—			
Total pay rolls approved,	$25,653 44		
Less amounts uncalled for,	1 50		
Total pay rolls paid,	$25,651 94		
Total bills approved and paid,	28,658 76		
		$54,310 70	
By interest on water bonds paid by City Treasurer,		89,000 00	
By balance transferred to sinking fund by City Treasurer,		100,366 30	
			$243,677 00

LUDLOW MAIN NO. 2 FUND.

To balance in hands of City Treasurer, December 10, 1899, .	$392 27
By transfer to Sinking Fund Commissioners, April 20, 1900, by order of City Council, ...	392 27

The net cost of construction and maintenance during the year has been charged to the following accounts:—

CONSTRUCTION.

Distribution mains — extensions, .	$6,362 20	
Gates and valves, . . .	29 46	
Drinking fountains, . . .	166 63	
Standpipes — for street sprinkling, .	342 16	
Water rights, Jabish brook (expenses and settlement of old claims on account of "Ludlow Reservoir Improvement" in 1890 and 1891), . . .	328 62	
Swift river — possible supply (acct. 1899),	6 00	
Westfield river — possible supply, .	5,003 76	
Experimental filter plant at Ludlow reservoir, ...	4,037 19	
Total charged (exclusive of Ludlow Main No. 2.) . . .	$16,276 02	
Ludlow Main No. 2 (auxiliary 30-inch main crossing Chicopee river,— cost paid from receipts of the department), (additional on acct. of 1899), .	31 00	
Total charged, . . .		$16,307 02
Less amount *credited* "Services — permanent pavement account," for services assumed and paid for by consumers,	$36 93	

Brought forward,		$36 93	$16,307 02
Less amount *credited* "Pumping station, Five Mile pond — equipment," for cast-iron pipe, etc., returned to stock and used for other purposes, .		265 32	
Less amount *credited old* "*Construction*" *account*, for sale of schoolhouse lot on Armory street, and sand from old reservoir property, . . .		3,021 70	
Total credited, ...			3,323 95
Net total construction added, ...			$12,983 07

MAINTENANCE.

General: —			
Management and repairs, . .		$24,362 21	
Interest, coupons, . . .		89,000 00	
Taxes, ...		248 64	
			$113,610 85
Special: —			
Engineering (mapping), . . .		$188 62	
Damages, ...		547 12	
Pumping station, Chapin pond —			
Operating (acct. 1899), .	$3 95		
Care and repairs, . .	60 16		
		64 11	
Pumping station, Five Mile pond —			
Operating, . . .	$54 38		
Care and repairs, . .	90 24		
		144 62	
Ludlow reservoir — examination (account 1899), ...		7 50	
Distribution mains — renewals, . .		1,451 42	
			2,403 39
Total, ...			$116,014 24

COST OF WATER WORKS.

Net total cost, December 10, 1899, . . .	$2,115,576 49
Net aggregate construction added, 1900, . .	12,983 07
Net total cost of water works to December 10, 1900,	$2,128,559 56

Divided as follows: —

Balance of *old "Construction" account* in ledger to *December 10, 1893* (in future to be analyzed and separated, so far as possible, into its component construction and property accounts),	$1,656,562 98	
—Note amount credited during 1900—		
Net cost of *Ludlow Main No. 2* to December 10, 1900, . . .	320,986 83	
NET *aggregate of new construction and property accounts*, as classified in ledger and annual reports since 1893, .	151,009 75	
Total as stated, ...		$2,128,559 56

BONDED DEBT.

(*As per Books of City Treasurer.*)

850 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: —		
$25,000 payable each year from April 1, 1901, to April 1, 1902, . .	$50,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
		$825,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875, and all due April 1, 1905, . .		200,000 00
Amount carried forward,		$1,025,000 00

Amount brought forward,		$1,025,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each) issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920,		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow Main No. 2, and due as follows: —		
$200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works, December 10, 1900,		$1,500,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1899,		$315,796 02
Balance transferred from water works receipts of 1899,	$63,027 05	
Balance transferred from Ludlow Main No. 2 fund,	392 27	
Interest on investments, 1900 (*net*),	7,280 26	
	$70,699 58	
Less amount paid City Treasurer to meet 7 per cent. bonds, due April 1, 1900,	25,000 00	
		45,699 58
Balance in hands of Sinking Fund Commissioners, December 10, 1900,		$361,495 60
Balance available from water works receipts of 1900,		100,366 30
Total amount available December 10, 1900,		$461,861 90

INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1900 (as per report of the Superintendent), is distributed to the following accounts:—

Cast-iron pipe stock,	$4,995 37	
Wrought-iron pipe stock,	1,299 18	
Meter stock,	270 63	
Stores and supplies,	250 68	
Tools and machines,	2,740 44	
Office furniture and fixtures,	788 15	
Teams,	1,108 23	
Pumping station, Chapin pond,—operating acct.,	114 20	
Pumping station, Five Mile pond,—operating acct.,	119 50	
Total,		$11,686 38

2.—DETAIL FINANCIAL STATEMENTS.

Receipts.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1899.	Committed During 1900.	Totals.
Water rates—annual,	$2,568 82	$144,729 75	$147,298 57
Water rates—meter,	376 57	66,775 75	67,152 32
Water rates—hose and fountains,	149 00	6,841 84	6,990 84
Water rates—builders,	450 95	1,284 65	1,735 60
Water rates—sprinkling streets,	. . . .	5,615 06	5,615 06
Water rates—miscellaneous,	282 42	551 91	834 33
Total water accounts,	$3,827 76	$225,798 96	$229,626 72
Services and repairs,	$1,207 37	$13,293 84	$14,501 21
Meters and repairs,	238 35	4,131 67	4,370 02
Fines and penalties,	14 00	190 00	204 00
Off and on,	8 39	80 41	88 80
Seals,	. . . .	1 00	1 00
Miscellaneous accts. (sales, etc.),*	636 50	*7,230 04	7,866 54
Total other accounts,	$2,104 61	$24,926 96	$27,031 57
Totals charged 1900,	$5,932 37	$250,725 92	$256,658 29

*The amount charged for "miscellaneous accounts" during 1900, includes the following:—

For rentals of land, offices, etc.,	$1,312 12
For bonus from real estate owners for extension of water mains,	200 00
For use of horse by sewer department in flushing sewers,	494 25
For shop sales of material, miscellaneous work, etc.,	2,223 67
For sale of land on Armory street, for schoolhouse lot,	3,000 00
Total,	$7,230 04

AMOUNTS ABATED TO COLLECTOR, AMOUNTS UNCOLLECTED, AND AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Abated During 1900.	Uncollected Dec. 10, 1900.**	Collected During 1900.
Water rates—annual,	*$7,415 41	$2,676 46	$137,206 70
Water rates—meter,	148 64	81 61	66,922 07
Water rates—hose and fountains,	114 27	116 50	6,760 07
Water rates—builders,	53 25	175 65	1,506 70
Water rates—sprinkling streets,	. . . .	. . . .	5,615 06
Water rates—miscellaneous,	15 45	87 91	730 97
Total water accounts,	$7,747 02	$3,138 13	$218,741 57
Services and repairs,	$71 59	$1,672 43	$12,757 19
Meters and repairs,	6 44	179 95	4,183 63
Fines and penalties,	22 00	14 00	168 00
Off and on,	2 00	11 25	75 55
Seals,	. . . .	. . . .	1 00
Miscellaneous accounts,	22 59	93 89	7,750 06
Total other accounts,	$124 62	$1,971 52	$24,935 43
Totals, 1900.	*$7,871 64	**$5,109 65	$243,677 00

*NOTE:—Of the total amount ($7,415.41) abated on account of "*Water rates—annual*," $6,774.25 represent *credits*—or draw-backs—*allowed for vacancies*, in accordance with Rule 12 of the Water Commissioners' rules and regulations.

** NOTE:—This amount of $5,109.65 (called "Uncollected Dec. 10, 1900") is the *balance* standing charged to the City Collector at the close of the city's fiscal year, and is composed of $1,216.63 in *collected cash* not yet paid over to the City Treasurer (and not to be credited to the Collector until so paid over), and also of $3,893.02 in actual *unpaid bills* at that date.

Of this latter amount, $1,678.05 represents unpaid bills committed to the Collector December 1, 1900, on which the month allowed for payment had not yet expired, leaving $2,214.97 in unpaid bills *actually overdue*.

RECAPITULATION.

DIVISIONS.	Water Accounts.	Other Accounts.	Totals.
Amounts collected, 1900,	$218,741 57	$24,935 43	$243,677 00
Amounts uncollected, 1900,	3,138 13	1,971 52	5,109 65
Amounts abated, 1900,	7,747 02	124 62	7,871 64
Amounts charged (including balances forward from previous year), 1900,	$229,626 72	$27,031 57	$256,658 29

The differences in the *total collection accounts* of 1899 and 1900 are shown as follows:—

COMPARISON: 1899-1900.

	1899.	1900.	DIFFERENCES. 1900.
Amounts collected,	$235,050 00	$243,677 00	+$8,627 00
Amounts uncollected,	5,932 37	5,109 65	—822 72
Amounts abated,	6,869 72	7,871 64	+1,001 92
Amounts charged,	$247,852 09	$256,658 29	+$8,806 20

The following table of charges and receipts since 1885 *for water only,* shows the annual growth of the cash income of the department since that date.

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

YEAR.	Water Rates Charged. (*During the year, only*).		Water Rates Collected.	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	. . .	$90,848 05	. . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890*	133,553 28*	7,332 56	129,913 27*	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58
1900	225,798 96	5,125 82	218,741 57	5,680 33

*Amounts for 1890 estimated at $20,000 less than actual totals for that year, which includes 15 months water rates—instead of 12—due to change of time in rendering the semi-annual bills.

INCOME: — VALUE ACCOUNTS.

The amounts entered on the ledger for 1900 are shown as follows:—

USE OF WATER BY THE CITY.

(*Charged and credited as shown below.*)

Almshouse and annexed buildings,		$376 00
City hall,		43 00
Fire department (buildings),	$588 00	
Fire department (hydrant service), 955 fire hydrants at $20 (amount fixed by city ordinance),	19,100 00	
		19,688 00
Forestry department (buildings),		14 00
Highway department (city yards, etc.),		47 00
Parks (fountains and ponds, $500; hose, $105),		605 00
Police department (buildings),		103 00
Scavenger department and Wayfarers' lodge,		74 00
School department (buildings),		8,254 30
Sewer department (building purposes),	$65 45	
Sewer department (flushing), (amount fixed by city ordinance in 1880),	500 00	
		565 45
Watering tanks and drinking fountains,		640 00
Amount charged (*on ledger only*) to "**City of Springfield—Special Account,**" (NOTE: — CALLED A RESOURCE ACCOUNT IN PARTIAL OFFSET TO LIABILITY ACCOUNTS OF CITY BONDS AND APPROPRIATIONS.)		$30,409 75
Water department (buildings), amount charged (*on ledger only*) to "**Expense,**"		85 00
Total credited (*on ledger as gain account*) to "**Water Rates—City Use**" (forward),		$30,494 75

Brought forward,		$30,494 75

RENTS OF REAL ESTATE.

(Charged and credited as shown below.)

Superintendent's house, No. 37 Bridge street; —Dec. 1, 1899 to May 1, 1900 (charged to "**Salaries**"), . .	$125 00	
Foreman's house, No. 37 Bridge street; —June 1 to Dec. 1, 1900 (charged to "**Labor**"), ...	78 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "**Teams**"), .	300 00	
Keeper's house, Ludlow reservoir (charged to "**Care and Repairs—Ludlow Reservoir**"),	180 00	
Keeper's house, Van Horn reservoir (charged to "**Care and Repairs—Van Horn Reservoir**"), ...	100 00	
Total credited to "**Rents,**"		783 00
Total, "INCOME:—VALUE ACCOUNTS," . .		$31,277 75

Expenditures.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts during 1900:—

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

(See Superintendent's report for detail of location, etc.)

LOCALITY.	PIPE.	SIZE.	COST.
Alderman street, . . .	476 feet,	6 inch,	$300 11
Bellevue avenue (*see credit*), .	2 "	8 "	34 87
Belmont court, . . .	207 "	1½ "	45 73
Benton avenue, . . .	93 "	2 "	33 02
Boston road, . . .	130 "	6 "	153 15
Amount carried forward,			$566 88

LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward,			$566 88
Central street (*high service*),*	579 feet,	8 inch,	651 65
Chapel street,	46 "	6 "	35 17
Cherry street,	380 "	1¼ "	85 38
Clayton avenue,	444 "	6 "	268 30
Coleman street,	180 "	6 "	109 07
Crystal avenue,	25 "	6 "	42 62
Dickinson street,	1,600 "	8 "	1,405 13
Elizabeth street,	326 "	1½ "	73 30
Euclid avenue,	40 "	6 "	50 62
Fairview street,	96 "	6 "	135 71
Forest avenue,	1,352 "	6 "	826 32
Groveland avenue,	509 "	6 "	331 38
Hall street,	22 "	6 "	41 32
Hickory street,	108 "	1¼ "	24 26
Hobson street,	192 "	1¼ "	56 82
Hollywood street,	18 "	6 "	95 58
Keith street,	20 "	6 "	40 48
Knox street,	68 "	1 "	9 16
Liberty street,	164 "	8 "	163 85
Marengo avenue,	31 "	6 "	46 00
Mill street,	70 "	1¼ "	15 52
Newland street,	396 "	6 "	241 13
Norfolk street,	38 "	1¼ "	6 32
Ozark street,	480 "	6 "	304 77
Park avenue,	429 "	6 "	276 84
Walden street,	202 "	1½ "	57 45
Washington street,	228 "	6 "	170 51
Wellington street,	372 "	6 "	217 24
Wilbraham road,	421 "	1¼ "	101 71
William street (add'l at Main street in changing low service to high),	26 "	6 "	85 14
Total charged,			$6,535 63

* In making the above extension in Central street, there was received, from parties directly interested in the same, the sum of $200.00 as "Bonus," which sum is included in "Miscellaneous Accounts" charged and paid to the Collector as shown under "Receipts."

Deducting this amount from the net total cost of extensions given, the balance of $6,162.20 represents the net actual expenditure from the ordinary receipts of the department.

Amount brought forward,		$6,535 63
Less amounts credited for material returned to stock accounts from the following streets: —		
Bellevue avenue,	$127 41	
Butler street,	19 64	
North street,	6 51	
Summer street,	19 87	
Total credited,		173 43
Net total cost during 1900,		*$6,362 20

GATES AND VALVES.

(*Not charged to streets.*)

Setting additional gates.

Sargeant street, at Main (south of other gate), 6″ low,	$29 46

STANDPIPES—FOR STREET SPRINKLING.

Allen street, opposite No. 161,	$39 18
Andrew street, opposite Dawes,	40 15
Highland street, N. W. cor. Orange,	30 27
Northampton avenue, N. W. cor. Gunn square,	31 00
Oak street, Indian Orchard,	36 58
Plainfield street, near Lowell (N),	38 32
Springfield street, at Chestnut,	31 94
Sumner avenue, near Forest (W),	29 22
White street, N. W. cor. Orange,	31 94
Worcester street, Indian Orchard, near No. 236–238,	33 56
Total,	$342 16

WATER RIGHTS—JABISH BROOK.

(*Settlement of claims on account of "Ludlow Reservoir Improvement" in* 1890 *and* 1891.)

Amounts paid on the following accounts:—

Abraham R. Murdock (of Palmer),	$100 00
Orrin Slate (of Belchertown),	175 00
Total (as agreed upon, outside of the courts),	$275 00
Legal expenses on account of sundry claims,	53 62
Total,	$328 62

*See foot note opposite page.

WESTFIELD RIVER — POSSIBLE SUPPLY.

Engineering - - services,	$3,367 25
Engineering — expenses,	553 95
Legislative bill — (hearings, field examinations, legal services, and sundry expenses; not including engineers' services),	1,013 63
Water Commissioners' expenses — (for traveling and incidentals),	41 54
Water samples (for analysis) (from Huntington, etc.),	22 63
Sundry petty expenses,	4 76
Total,	$5,003 76

EXPERIMENTAL FILTRATION.

Engineering (services and expenses),	$647 15
Labor and teaming (pay rolls),	721 39
Pumps, boilers, and chimney,	351 46
Pipe, valves, and fittings,	1,010 28
Filters and storage tanks,	949 09
Apparatus, furniture, and fixtures,	110 61
Tools and supplies,	88 79
Incidentals,	23 30
Operating supplies (coal and oil),	135 12
Total,	$4,037 19

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$7,929 56
Inspection (salaries and expenses),	3,631 33
Teams (balance undistributed),	676 92
Tools and machines (net loss),	653 70
Stores and supplies (net loss),	185 59
Cast-iron pipe stock (net loss, from depreciation),	401 50
Office furniture and fixtures (net loss),	225 40
Stationery and printing,	402 97
Office account (janitor, supplies, etc.),	513 09
Amount carried forward,	$14,620 06

Amount brought forward,		$14,620 06	
Heat and light,		308 34	
Expense account (net),		236 41	
Telephone service,		130 88	
Off and on (services) (net),		254 48	
Refunds,		58 15	
Expense, city departments,		15 14	
Frozen services,		31 80	
Quality expense (flushing mains, getting samples, etc.),		37 39	
Petty maintenance,		883 39	
			$16,576 04
Care and repairs,	Van Horn reservoirs,	$573 00	
" "	Ludlow reservoir,	1,048 09	
" "	Belchertown reservoirs,	754 31	
" "	Ludlow main No. 1 (24 inch),	134 37	
" "	Ludlow main No. 2 (36 inch, etc.),	81 75	
" "	Distribution mains, cast iron,	410 40	
" "	Distribution mains, wrought iron,	169 85	
" "	Gates and valves,	246 36	
" "	Hydrants,	510 16	
" "	Standpipes (for street sprinkling),	409 28	
" "	Drinking fountains,	60 40	
" "	Meters (net),	196 90	
" "	Services,	2,601 55*	
" "	Private telephone lines,	251 73	
" "	Indian Leap Bridge,	78	
			7,448 93
Amount carried forward,			$24,024 97

* "CARE AND REPAIRS — SERVICES" may be analyzed as follows: —

Acct. of corporation cocks, nips, leaks, etc.,	$438 08
" of putting on pump (small pressure),	95 06
" of stoppage by eels,	56 81
" of putting new stops inside curb line,	1,725 39
" of relocating stops, etc.,	15 97
" of cutting off abandoned services,	48 68
" of reconnecting services,	5 61
" of repairs of stops, valves, pipe, etc.,	27 32
" of raising or lowering boxes, and repairing or cleaning same,	50 93
" of changing and transferring service connections,	59 80
" of changes, etc., for new sewers,	44 08
" of changes, etc., for new paving,	19 67
" of street and walk repairs,	14 15
Total,	$2,601 55

Amount brought forward,		$24,024 97
Repairs (real estate), No. 37 Bridge street, .	$44 46	
" " No. 43 Bridge street, .	80 74	
" " Stable, Bridge street, .	84 47	
" " No. 49 Bridge street,	58 41	
" " House, Van Horn reservoir,	7 70	
" " House, Ludlow reservoir,	61 46	
		337 24
Total.		$24,362 21

INTEREST ON BONDS.

$850,000 at 7 per cent., 6 months, * .	$29,750 00*	
$825,000 at 7 per cent., 6 months, * .	28,875 00*	
$200,000 at 6 per cent., 12 months, .	12,000 00	
$125,000 at 3½ per cent., 12 months, .	4,375 00	
$350,000 at 4 per cent., 12 months, .	14,000 00	
Total, ...		$89,000 00

TAXES.

On reservoir property at Belchertown : - -		
Per acts of 1890, chapter 303, . .	$58 22	
Per acts of 1893, chapter 352, . .	11 73	
		$69 95
On reservoir property at Ludlow : - -		
Per acts of 1893, chapter 352, . .		178 69
Total, ...		$248 64

DAMAGES.

Caroline E. Hayden, *et al.*, Boston road,—(claimed damages to wells, pavilion, and boating privileges, by taking and drawing down waters of Five Mile pond) (agreed amount), ...	$50 00
Engineering department, and sundry persons,—(services and expenses on account of above claim), . .	18 12
Amount carried forward,	$68 12

* Twenty-five $1,000-7 per cent. bonds, due and paid April 1, 1909.

Amount brought forward,	$68 12
Joseph Little, Talcott avenue,—(injury to wagon by driving into hole in street, caused by leak in water pipe) (agreed amount), ...	4 00
B. Frank Steele, 71 Thompson street,—(premises flooded by break in water main in 1895) (agreed settlement of suit), ...	475 00
Total, ...	$547 12

PUMPING STATION, CHAPIN POND.

Operating: —		
Fuel, supplies, etc. (acct. of 1899),	$3 95	
Labor (pay roll, engineer, etc.),	0 00	
		$3 95
Care and Repairs: —		
Labor and material, . . .		60 16
Total, ...		$64 11

PUMPING STATION, FIVE MILE POND.

Operating: —		
Fuel, supplies, etc. (net), . .	$10 33	
Labor (pay roll, engineer, etc.), . .	44 05	
		$54 38
Care and Repairs:—		
Labor and material, . . .		90 24
Total, ...		$144 62

DISTRIBUTION MAINS—RENEWALS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Bellevue avenue (*reconnecting at Belmont avenue as re-located*), . .			$31 53
Everett street, ...	1,140 feet,	6 inch,	799 40
Springfield street, . . .	265 "	16 "	620 49
Total, ...			$1,451 42

3.—MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated, and uncollected during 1900, the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unpaid Bills. Due before 1900.	Due in 1900.	For Waste Unchecked.	Total Number.
Number uncollected, 1899 (forward),	7	. . .	0	7
Number charged during 1900, . .	0	95	0	95
Total charged collector, 1900, .	7	95	0	102
Number collected during 1900, . .	5	79	0	84
Number abated during 1900, . .	1	10	0	11
Number uncollected, 1900 (forward),	1	6	0	7
Total, as above, ...	7	95	0	102

METERS AND INDICATORS.

Total number in use October 1, 1899, . . .		2,898
Number of meters (on service pipes) added (net), .	218	
Number of indicators (on elevators and motors) added (net),	6	
Net total number added to October 1, 1900, .		224
Total number in use October 1, 1900 (see table of same following),		3,122

Total quantity of metered water charged during 1900, ...	425,004,191 gallons
Average quantity charged per meter or indicator, .	136,132 "
Total amount charged during 1900, . .	$66,775 75
Average amount charged per meter or indicator, .	$21 35+
Average rate charged per 1,000 gallons, . .	15.71 cents

TABLE OF METERS AND INDICATORS.

(To October 1, 1900.)

KIND AND SIZE.	½″ or ⅝″	¾″	1″	1½″	2″	3″	4″	6″	Indicators.	Totals.
Meters.										
Ball & Fitts, Piston	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Crown	959	584	68	16	16	3	1	.....	.....	1,647
Desper	5	1	.....	.....	1	.....	.....	.....	.....	7
Hersey (rotary)	243	300	20	10	8	.....	5	1	.....	587
Hersey (disc)	188	168	8	2	1	.....	.....	.....	.....	367
Nash	122	112	13	1	.....	1	.....	.....	.....	249
Thomson	8	7	2	1	.....	.....	.....	.....	.....	18
Undine (and Hartford)	2	4	.....	.....	.....	.....	.....	.....	.....	6
Union Duplex	1	1	.....	.....	.....	.....	.....	.....	.....	2
Union Rotary	54	19	2	1	2	.....	.....	.....	.....	78
Worthington	10	7	.....	2	2	.....	.....	.....	.....	21
										2,983
Indicators.										
Desper (for elevators)	.....	.....	.....	.....	.....	.....	.....	.....	111	139
Desper (" motors)	.....	.....	.....	.....	.....	.....	.....	.....	1	
Friction (" elevators)	.....	.....	.....	.....	.....	.....	.....	.....	2	
Graves (" ")	.....	.....	.....	.....	.....	.....	.....	.....	7	
Ross (" motors)	.....	.....	.....	.....	.....	.....	.....	.....	3	
Whitney (" ")	.....	.....	.....	.....	.....	.....	.....	.....	9	
Whittier (" elevators)	.....	.....	.....	.....	.....	.....	.....	.....	4	
Worthington (" ")	.....	.....	.....	.....	.....	.....	.....	.....	2	
Totals	1,592	1,204	113	33	30	4	6	1	139	3,122

INSPECTION.

The distribution of work done under this head and time spent by the four inspectors on same, during the past year, will be seen by the usual tabulated statement as follows:—

CLASSIFICATION.	INSPECTORS. No. 1. Days.	No. 2. Days.	No. 3. Days.	No. 4. Days.	Total number of days.
Reading and inspection of meters	114	134	144	148	540
Turning on and off $8 hose	0	3	0	0	3
Inspection of hose use—general	0	12	8	15	35
General or " house-to-house " inspection	0	30	45	68	143
Semi-annual and monthly inspection (billing)	92	46	0	0	138
Monthly inspection of vacancies reported	0	0	60	0	60
Special inspection (leaks, bills, and collections)	0	10	13	23	46
Special inspection (real estate sales)	0	9	0	12	21
Office work	80	41	20	24	165
Sickness, etc	4	5	0	0	9
Total (290 working days in the year)	290	290	290	290	1,160

During the year 704 cases of leaking fixtures were found on unmetered premises, and the same recorded and the waste caused to be discontinued.

STATISTICS.

Annexed will be found the usual comparative statement showing a classification of consumers supplied at date together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 31, 1900.

BOARD OF WATER COMMISSIONERS, December 31, 1900.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

COMPARATIVE STATEMENT,

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1890, 1899, AND 1900.

CLASSES.	1864.	1874.	1880.	1890.	1899.	1900.
Bakeries	.....	.....	8	15	35	36
Banks	2	9	12	15	16	16
Barber Shops	2	14	3	30	83	85
Baths	.....	439	829	2,654	8,075	8,777
Beer Pumps	.....	.....	.....	.....	65	67
Boarding Houses	.....	33	55	97	73	77
Breweries	.....	.....	2	2	2	2
Cemeteries	.....	.....	1	5	6	6
Churches (from 1895)	.....	.....	.....	.....	37	39
Churches, Halls, and Public Buildings (to 1895)	2	12	14	60	.....	.....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	.....	35	34
Dyehouses and Bleacheries	2	2	3	3	4	4
Elevators	.....	.....	15	96	149	154
Families	1,288	3,637	4,893	8,511	14,593	15,179
Fish Tanks and Aquariums	.....	.....	.....	8	12	10
Foundries	4	5	6	12	13	13
Fountains (private)	.....	.....	12	18	10	9
Fountains (public)	.....	.....	.....	10	13	14
Gas Works	.....	.....	1	1	1	1
Greenhouses	2	3	9	8	21	24
Halls (from 1895)	.....	.....	.....	.....	53	53
Hose	.....	.....	885	1,857	3,608	3,827
Hotels	7	12	15	20	19	19
Laundries	.....	6	6	25	40	41
Manufactories	6	50	80	78	79	79
Markets	8	31	54	60	102	105
Motors	.....	.....	13	44	77	76
Offices and Rooms	.....	88	521	1,088	1,704	1,834
Parks (from 1895)	.....	.....	.....	.....	13	13
Photographers	.....	6	9	11	10	11
Printers and Publishers	.....	.....	.....	25	24	25
Public Buildings and Institutions (from 1895)	.....	.....	.....	.....	24	27
Public Institutions (to 1895)	.....	.....	.....	6	.....	.....
Railroads	.....	.....	3	4	4	4
Restaurants	5	14	17	24	47	49
Saloons	9	34	32	45	44	44
Schools (total to 1897)	.....	12	15	33	.....	.....
Schools (private) (from 1897)	.....	.....	.....	.....	14	14
Schools (public) (from 1897)	.....	.....	.....	.....	31	32
Shops	18	51	88	189	325	333
Slaughter Houses	.....	.....	.....	1	.....	.....
Stables (private)	82	274	379	704	1,218	1,260
Stables (public)	6	14	23	30	29	31
Steam Engines	.....	.....	48	74	110	116
Steam Heaters	.....	.....	32	104	778	806
Stores	125	225	320	359	668	693
Street Railways (from 1895)	.....	.....	.....	.....	1	1
Urinals	.....	131	296	435	498	560
Water Closets	.....	1,192	2,402	6,792	15,828	16,958
Watering Tanks and Drinking Fountains	.....	.....	.....	12	12	14

SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1900.

Springfield Water Works, Hampden County, Mass.

Population by U. S. census of 1900, . . . 62,059

Dates of construction : —

Original works in city, by private company, 1864
(Sale of same to city, 1872.)
Works at Ludlow, Mass., . 1873–1874–1875
Works at Belchertown, Mass., . . 1890–1891
Additional main from Ludlow reservoir, 1893–1894

By whom owned, ... City of Springfield

Sources of supply : —

Low pressure — from impounding reservoirs in the city fed by springs, surface water, and also by the high pressure.

High pressure — from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs, and surface water.

(Aggregate storage capacity, 2,295,792,000 gallons.)

Mode of supply, . . . entirely by gravitation.

FINANCIAL.

(NOTE.—All expenditures, including ordinary extensions of mains, etc., are made from general receipts—from water rates, sales, etc.—but the *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1899			$17,548 79
FROM CONSUMERS (*Division II.*):—			
N. Water rates, fixed	$146,204 44		
Q. Water rates, meter (*Division I.*)	66,922 07		
C. Net receipts for water (from consumers)	$213,126 51		
D. (Including "U", under construction.) Miscellaneous—(services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note)	24,935 43		
E. Total, 1900		$238,061 94	
FROM PUBLIC FUNDS:—			
F. Hydrants, 955 at $20 (*value*)	$19,100 00*		
G. Fountains, tanks, sewers, etc., (*value*)	1,745 00*		
H. Street watering (*cash*)	5,615 06		
I. Public buildings and departments (*value*)	9,649 75*		
J. General appropriations	00 00		
Total, 1900		36,109 81	
FROM REAL ESTATE RENTALS:— House rent given employees in part payment for services (*value*),—(amount of same charged to proper maintenance accounts under expenditures.)		783 00*	
K. Gross receipts from all sources, 1900 (*cash and value*)			274,954 75
Total available (including material, etc., from previous year)			$292,503 54

EXPENDITURES.

GENERAL ACCOUNT:—			
AA. Management and repairs	$24,362 21		
BB. Interest on bonds	89,000 00		
Taxes on reservoir prop'ty	248 64		
		$113,610 85	
SPECIAL ACCOUNT:—			
Distrib'n mains, renewals	$1,451 42		
Pumping station, Chapin pond (operating and care and repairs)	64 11		
Pumping station, Five Mile pond (ditto)	144 62		
Damages (by leaks, accidents, etc.)	547 12		
Miscellaneous accounts	196 12		
		2,403 39	
CC. Total maintenance for year		$116,014 24	
GG. (Including same under "Construction") Services, meters, repairs, etc. (labor and material charged to consumers, and included in "Receipts" under "D")		21,043 80	
Gross expenditures, 1900			$137,058 04
DD. BALANCE divided as follows:—			
Amount used for construction		$12,983 07	
Cash available for sinking fund		100,366 30	
Value city use of water, charged to City of Springfield		30,409 75	
Inventory of materials, tools, etc., on hand Dec. 10, 1900		11,686 38	
			155,445 50
EE. Total (in balance with receipts)			

*No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

CONSTRUCTION.

Receipts.

R.	Balance from previous year (account "Ludlow Main No. 2.")	$392 27
	Amount from maintenance receipts	12,983 07
	Amount from sales and transfers of real estate and material in 1900 to the credit of construction account of previous years	3,323 95
S.	Bonds issued	00 00
T.	Appropriations from tax levy (see *note* under "Financial")	00 00
U.	Other sources (included with "D" under maintenance receipts)	.....
V.	Total available,	$16,699 29

Expenditures.

FF.	Extensions, distribution mains		$6,362 20
GG.	Extension, services (paid for by consumers, see "Maintenance")		.....
HH.	Special: —		
	(*a*) Water rights—Jabish brook (expenses and settlement of old claims on account of "*Ludlow Reservoir Improvement*" in 1890 and 1891)	$328 62	
	(*b*) Possible new supply	5,009 76	
	(*c*) Experimental filter plant at Ludlow reservoir	4,037 19	
	(*d*) Chicopee river 30″ auxiliary (1899)	31 00	
	(*e*) Miscellaneous (standpipes, watering tanks, etc.)	538 25	
			9,944 82
II.	Total construction for year (Less $3,323.95 credited,—per receipts,— = $12,983.07 *net*.)		$16,307 02
	Amount transferred by City Council from "Ludlow Main No. 2" fund to "Water Works" sinking fund,		392 27
JJ.	Balance,		00 00
KK.	Total (in balance with receipts)		$16,699 29

GENERAL STATEMENTS.

W.	Net cost of works to date (including $320,986.83, cost of Ludlow Main No. 2),			$2,128,559 56
X.	Bonded debt at this date ($25,000.00 paid from sinking fund for maturing bonds during year),			1,500,000 00
Y.	Value of sinking fund at this date,			461,861 90
Z.	Rate of interest on bonded debt: —			
	7 per cent. on	$825,000 00		
	6 per cent. on	200,000 00		
	4 per cent. on	350,000 00		
	3½ per cent. on	125,000 00		
	Average rate 5.875 per cent. on		$1,500,000 00	

CONSUMPTION.

1.	Total population at date (U. S. census, 1900),	62,059
2.	Estimated population on lines of pipe at date,	53,000
3.	Estimated population supplied at date,	48,200
4.	Total number gallons consumed for year (estimated),	1,997,097,500 gallons.
5.	Passed through domestic meters,	425,004,191 gallons.
6.	Passed through manufacturing meters, (or 21.28 + per cent.)	
7.	Average daily consumption (estimated),	5,471,500 gallons.
8.	Gallons per day to each inhabitant (estimated) (1),	88
9.	Gallons per day to each consumer (estimated) (3),	114
10.	Gallons per day to each tap (estimated) ("Distribution," 22),	560

DISTRIBUTION.

MAINS.

1.	Kind of pipe used; — wrought-iron, wrought-iron cement-lined, and cast-iron.	
2.	Sizes; — from one to 36 inches.	
3.	Extended during year (added to pipe table),	12,837 feet.
4.	Discontinued during year (deducted from pipe table),	5,015 feet.
5.	Total now in use,	144.69 miles.
6.	Cost of repairs per mile,	$5.50
7.	Number of leaks per mile, (Total leaks during year = 44)	$\frac{30}{100}$ +
8.	Small distribution mains, — less than 4 inches in diameter, — total length,	40,671 feet.
9.	Hydrants added during year (public), net,	2
10.	Number of public hydrants now in use,	955

11.	Stop gates added during year (public and private), net,		52
12.	Number of stop gates now in use,		1,889
13.	Small stop gates, less than 4 inches — total,		361
	(*a*) High service,	244	
	(*b*) Low service,	117	
14.	Number of blow-off gates,		89
15.	Range of pressure on mains at center for day and night: —		
	(*a*) High service,		100 to 120 pounds.
	(*b*) Low service,		30 to 35 pounds.

SERVICES.

16.	Kind of pipe used; — wrought-iron (tarred and galvanized) and cast-iron.		
17.	Sizes from ½ to 6 inches.		
18.	Extended during year (in feet).	NOTE.— Services paid for entirely by the consumers, and no special statistics kept of them.	
19.	Discontinued during year (in feet).		
20.	Total now in use (in miles).		
21.	Service taps added (net),		308
22.	Number of service taps now in use,		9,764
23.	Average length of service,	(See note under 18, 19, 20.)	
24.	Average cost of service,		
25.	Meters added (including indicators) (net),		224
	(*a*) Meters added,	218	
	(*b*) Indicators added,	6	
26.	Number of meters now in use (including indicators),		3,122
	(*a*) Meters (on supply pipes),	2,983	
	(*b*) Indicators (on elevators and motors),	139	
27.	Motors and elevators added (net),		4
	(*a*) Motors added, 1; discontinued, 2;	—1	
	(*b*) Elevators added, 8; discontinued, 3;	+5	
28.	Number of motors and elevators now in use,		230
	(*a*) Motors,	76	
	(*b*) Elevators,	154	

SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners :—

GENTLEMEN :—I herewith submit the twenty-seventh annual report of the Superintendent, for the year ending November 30, 1900.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE. GATES AND HYDRANTS ADDED.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Feet of Pipe laid—High service,	9,469	0	0	9,469
Feet of Pipe laid—Low service,	411	1,405	182	1,998
Totals laid, 1900, ...	9,880	1,405	182	11,467
Added to tables (account previous years, and changes, etc.),	983	0	387	1,370
Totals added, 1900. . . .	10,863	1,405	569	12,837
Gates set—High service. . .	24	0	26	50
Gates set—Low service. . . .	1	0	10	11
Totals set, 1900, ...	25	0	36	61
Fire Hydrants set—High service,	5	2	1	8
Fire Hydrants set—Low service,	0	2	0	2
Totals set, 1900, ...	5	4	1	10

MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

Number.	Totals.
Feet of Pipe—High service,	1,120
Feet of Pipe—Low service,	3,895
Total, 1900,	5,015
Gates—High service,	4
Gates—Low service,	5
Total, 1900,	9
Fire Hydrants—High service,	3
Fire Hydrants—Low service,	4
Total, 1900,	7

There are now in use 144.69 miles of supply and distribution mains, a net addition of 1.48 miles the past season.

Five hundred thirty-one service taps have been made, a net addition of 308 in use. The total number now connected with the system is 9,764.

RAINFALL.

The table which follows shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory, and the City Engineer's office in this city, during the year ending November 30, 1900.

MONTHS.	Belchertown.	Ludlow Reservoir.	U. S. Armory.	Engineer's Office.
	Inches.	Inches.	Inches.	Inches.
December, 1899, .	2.14	1.96	1.67	1.30
January, 1900, . .	3.23	3.84	3.60	3.00
February, 1900, .	8.27	7.62	8.69	7.63
March, 1900, . .	6.24	5.75	5.85	5.06
April, 1900, . . .	1.79	1.66	1.25	1.43
May, 1900, . . .	3.98	4.41	5.07	4.72
June, 1900, . . .	3.00	4.50	2.84	2.90
July, 1900, . . .	5.06	4.49	2.44	2.38
August, 1900, . .	3.67	3.16	1.62	1.91
September, 1900, .	2.81	3.18	2.52	2.36
October, 1900, . .	3.80	4.33	3.60	3.23
November, 1900, .	6.54	5.88	5.86	6.25
Totals, . . .	50.53	50.78	45.01	42.17
Mean, . . .	4.21	4.23	3.75	3.51

MAINTENANCE.

Forty-four leaks have been repaired this season, an average of $\frac{30}{100}$ + to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

KIND OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	TOTALS
Cement-lined,	1	0	3	0	0	0	0	0	0	2	0	0	6
Cast-iron, .	0	0	6	12	6	1	1	5	0	1	6	0	38
Totals, .	1	0	9	12	6	1	1	5	0	3	6	0	44

The large amount of work done in moving pipe was for the purpose of making way for proposed sewers, which by city ordinance have the right of way in all public streets.

Another large item of expense has been for labor in putting water fixtures in proper condition in streets to be permanently

paved. This work adds to the maintenance account, as well as to the permanency and beauty of our streets.

LUDLOW AND BELCHERTOWN RESERVOIRS.

The Ludlow and Belchertown divisions are in their usual good condition, having been well cared for by Francis Blackmer of Belchertown and Austin L. Graves of Ludlow. The heavy rains of February last caused some damage to the gate-house at Knight and Gold reservoir and several places along the canal, all of which have been put in order by Mr. Blackmer.

ELECTROLYSIS.

Proofs of electrolytic injury to water and other metallic pipes are rapidly accumulating from cities all over the United States where the single trolley system is in use. In this system the current, after doing its duty in propelling the cars, is discharged into the rails to be conveyed back to the power station. As the rails are not insulated, and the earth being a good conductor, a portion of the current escapes into the earth, and on to the water pipes. This trouble will continue as long as the single trolley system is used. The Street Railway Company in this city have in several instances connected the pipes affected to the rails or return wire, which I consider a very dangerous thing to do. What we want is, that the electric current be kept out of the ground, and away from our water pipes; this cannot be done so long as the current is discharged into the rails. The double overhead trolley will correct the whole trouble, as no current is discharged into the rails, but all on the overhead return wire. This matter I consider of great importance, and I would earnestly recommend that investigation and a remedy be applied before our water system, which is already seriously affected, receives any further injury.

INVENTORY.

The amount of stock, tools, and fixtures on hand December 1, 1900, was $11,686.38.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates, and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

SPRINGFIELD, MASS., December 26, 1900.

BOARD OF WATER COMMISSIONERS, December 31, 1900.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

WATER PIPE LAID AND TAKEN OUT IN 1900.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Pipe Laid by Private Parties.					
Penacook avenue, north from Carew street (account 1896, S. R.-10,178)....	1¼	Wrought-iron.	387	....	387
Prospect place, south from Prospect street (S. R.-12,193).....	2	"	....	182	182
Total wrought-iron laid by private parties.....	....	.....	387	182	569
Pipe Laid by City.					
Columbus avenue, north from 4″. (See S.R. -12,137).....	1	Wrought-iron.	20	....	
Knox street, south from 2″. (See S. R.-12,534).....	1	"	68	....	88
Cherry street, from 6″ to Mill. (See S. R.-12,558).....	1¼	"	380	....	
Hickory street, south from Wilbraham road. (See S. R.-12,284—12,285).....	1¼	"	108	....	
Hobson street, south from Berkshire..	1¼	"	192	....	
Mill street, west from Cherry. (See S. R.-12,558).....	1¼	"	70	....	
Norfolk street, south from 6″. (See S. R.-12,212).....	1¼	"	38	....	
Wilbraham road, east from 8″. (See S. R.-12,284-12,285).....	1¼	"	421	....	1,209
Belmont court, south from Belmont avenue. (See S.R.-12,367-12,368)....	1½	"	207	....	
Elizabeth street, south from Berkshire.	1½	"	326	....	
Walden street, east from Commonwealth avenue. (See S.R.-12,275)....	1½	"	202	....	735
Benton avenue, extension. (See S. R. -12,029-12,831).....	2	"	93	....	
Crosby street, extension (account sewer flush-gate).....	2	"	9	....	102
Total wrought iron laid by city.....	....	.....	2,134	....	2,134
HYDRANTS, sundry streets as follows:					
Auburn street.....	4	Cast-iron.	5	....	
Catharine street.....	4	"	8	....	
Chestnut street.....	4	"	...	8	
Cypress street.....	4	"	12	7	40
Alderman street, Dickinson to Berendo avenue. (See S.R.-12,461). ...	6	"	476	....	
Boston road, east from Berkshire street. (See S. R -12,314.)....	6	"	130	....	
Chapel st., extension (account sewer flush-gate).....	6	"	46	....	

WATER PIPE LAID, ETC., IN 1900—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Clayton avenue, extension to Dupont place (See S. R.-12,288-12,305)	6	Cast-iron.	444	....	
Coleman street, extension to just south of Embury. (See S. R.-12,161)	6	"	180	....	
Crystal avenue, completion at Dickinson street	6	"	25	....	
Euclid avenue, completion at Dickinson street	6	"	40	....	
Everett street, east from 6″ near Chestnut	6	"	....	1,140	
Fairview street, east from Groveland avenue	6	"	96	....	
Forest avenue, Walden street to Groveland avenue	6	"	1,352	....	
Groveland avenue, Forest ave. to Fairview street	6	"	509	....	
Hall street, completion at Dickinson	6	"	22	....	
Hollywood street, east from Forest avenue	6	"	18	....	
HYDRANTS, sundry streets as follows:					
Central street	6	"	5	....	
Fairview street	6	"	7	....	
Groveland avenue	6	"	8	....	
Hollywood street	6	"	7	....	
Park avenue	6	"	12	....	
Sumner avenue	6	"	2	....	
Keith street, completion at Dickinson	6	"	20	....	
Marengo avenue, completion at Dickinson	6	"	31	....	
Newland street, extension. (See S.R.-12,109)	6	"	....	396	
Ozark street, north from Orange	6	"	480	...	
Park avenue, extension to Pineywoods	6	"	429	....	
Washington street, east from Commonwealth avenue. (See S.R.-12,210)	6	"	228	....	
Wellington street, extension. (See S. R.-12,172)	6	"	372	....	
William st., Water to Main (changed from *low* service)	6	"	945	....	
William st., at Main (net additional)	6	"	26	....	7,446
Bellevue avenue (as relocated), completion at Dickinson street	8	"	2	....	
Central street, east from Main. (See S. R.-12,027)	8	"	579	....	
Dickinson street, west from Oakland, to opposite house No. 34. See S.R.-12 187-12,498)	8	"	1,600	....	
Liberty street, south from Phœnix ave. (See S. R.-12,245)	8	"	164	....	2,345
Five Mile pond pumping station:—					
Discharge for small pump (additional to correct error of 1899)	12	"	23	....	
Discharge for large pump (additional to correct error of 1899)	12	"	15	....	38
Springfield street, west from 20″ from Van Horn reservoir (replacing 20″ in way of new sewer)	16	"	....	265	265
Total cast-iron laid by city			8,318	1,816	10,134
Total wrought-iron laid by city (forward)			2,134	....	2,134
Total wrought-iron laid by private parties (forward)			387	182	569
Total amount added, 1900			10,839	1,998	12,837

WATER PIPE LAID, ETC., IN 1900—CONCLUDED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Length in Feet. Low Service.	Totals.
Pipe Taken Out or Abandoned.					
Carew street, west from Armory (P), (S.R.–4,869), (not used since 1893, and cut off in 1895.)	1¼	Wrought-iron.	559	....	
Park avenue, south from 6″ (south from Sumner)	1¼	"	66	....	625
Everett street, east from 6″ cast-iron.	4	Cement-lined.	....	1,204	
HYDRANTS, sundry streets, as follows:					
Kenwood avenue (old location)	4	Cast-iron.	10	....	
LaVerne avenue (old location)	4	"	9	....	1,223
Kenwood avenue, south from Bellevue (old location)	6	"	23	....	
LaVerne avenue, south from Bellevue (old location)	6	"	26	....	
Liberty street, east from Charles	6	Cement-lined.	....	1,481	
William st., Water to Main (changed to *high* service)	6	Cast-iron.	....	945	2,475
Bellevue avenue, account of relocation of street. (NOTE:—location of private street changed by owners, and city's main pipe moved and relaid by private contractor, by permission of Water Board)	8	"	85	....	
Summer street, at Armory (account new sewer)	8	"	31	....	116
Five Mile pond pumping station:— Suction for small pump (47 feet error over the 292 feet actually laid in 1899, plus 264 feet taken out in 1900)	12	"	311	....	311
Springfield street, west from 20″ from Van Horn reservoir (in way of new sewer)	20	Cement-lined.	....	265	265
Total amount taken out or abandoned, 1900			1,120	3,895	5,015
Net addition to tables, 1900			9,719	— 1,897	7,822

MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1900.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st	6	....	....	....	940	
do. Plainfield st. to Fisk ave	6	....	....	....	719	1,659
Acushnet ave., east from Main st	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Wilbraham ave	6	....	....	2,253	....	
do. Wilbraham ave. to 4″ at Hickory st.	8	....	....	421	....	
do. at Hickory (west)	4	....	....	4	....	2,678
Alderman st., Dickinson to Ventura ave	6	....	....	788	....	788
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st	6	....	...	....	762	762
Alfred st	6	....	....	551	...	551
Allen ave., no. from Allen st. (P)(S. R.-9,209)	2	200	....	....	....	
do. north from private pipe	2	86	....	....	....	286
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487	.	5,417
Allendale st	6	....	....	...	707	707
Amherst st	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st.,	6	....	....	....	457	457
Arch st., North Main to east line of Conn. River R. R. location	6	....	....	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	...	
do. from 8″ to near Summer st	1	81	....	....	....	
do. north from 8″ (for S. R.-10,661)	2	92	....	....	...	
do. Summer to Van Horn reservoir	8	....	...	5,571	....	
do. Van Horn reservoir to Springfield st.	12	....	...	2,431	....	9,813
Armory st. ave., east from Armory st.	6	....	....	520	....	520
Armory st. court, south from Armory st. ave.	6	....	....	266	....	266
Ashley st	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Atwater terrace, west from Rimmon ave	6	....	....	660	..	660
Auburn st	6	....	....	....	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. at Maple st.	6	....	....	....	57	
do. east from 6″ at Maple st	4	....	380	...	....	
do. east from cement-lined	4	....	....	....	416	853
Bancroft st., North Main to 8″ at Chestnut.	6	....	....	....	1,511	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st. (P) (S. R. -5,495)	1¼	....	193	....	....	193

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bay st., St. James ave. to Thompson st.	8	1,275	....	....	....	
do. Thompson to Oak Grove cemetery	8	....	...	3,793	....	5,068
Bay st. ave., south from Bay st. (see S. R.-11,664)	1¼	150	....	....	....	150
Beacon st., Eastern ave. to Colton st.	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beaudry st., I. O., south from Main	6	....	....	498	....	
do. south from 6″ (P) (S. R.-10,768)	1	310	....	....	....	808
Beaumont st.	6	....	....	726	....	726
Beech st.	6	....	....	560	....	560
Beechwood ave., Sumner to Spruceland	6	....	....	565	....	565
Belgrade place, west from Walnut st.	4	....	....	150	....	
do. west from 4″	6	....	....	225	....	375
Bellevue avenue (new location)	8	....	....	1,645	....	1,645
Belmont ave., Fort Pleasant to Sumner	8	....	....	5,383	....	
do. Sumner to Forest	8	....	....	42	....	5,425
Belmont court, south from Belmont ave. (see S.R.-12,367-12,368)	1¼	207	....	....	....	207
Benton ave., east from Benton st.	6	....	....	15	....	
do. east from 6″	2	451	....	....	....	466
Benton st., State to 6″	4	....	....	1,175	....	
do. from 4″ to Wilbraham road	6	....	....	418	....	1,593
Berendo ave.	6	....	....	419	....	419
Berkeley st., Princeton to Monmouth	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir, "Main No. 1")	24	—	....	...	....	
do. Myrtle to Oak	6	....	....	703	....	703
Beverly st	6	....	....	252	....	252
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st.	6	....	....	....	168	
do. Douglas st. to Thomas	6	....	....	....	302	753
do. Wason to Grace st	8	....	....	726	....	
do. south from Grace st.	8	....	....	12	....	
do. Alfred st. to Douglas st.	6	....	....	394	...	
do. south from Douglas st.	6	....	....	176	....	1,218
Bliss st., Main to railroad	6	....	....	....	1,287	
do. railroad to Mechanics Row	2	....	93	....	....	1,380
Bloomfield st., west from Earl	6	....	....	265	....	
do. west from Pasadena ave.	6	....	...	22	....	287
Bond pl., so. from Bridge st. (P) (S. R.-6,033)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	...	
do. east from 6″	4	....	....	183	....	201
Boston ave., south from Boston road (P) (S. R.-8,171)	1¼	172	....	....	....	172
Boston road, east from Berkshire st. (see S.R.-12,314)	6	....	....	130	....	
do. Jasper st. to Denver	6	....	....	573	....	703
Bowdoin st., St. James ave. to Worthington st.	4	....	....	1,202	....	
do. Worthington to Ingersoll grove	6	....	....	833	....	2,035
Bowles st., Catharine to McKnight	2	700	....	...	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st.	6	....	....	....	934	934
Brace st.	6	....	....	378	....	378
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	....	67

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bridge st., Water to Chestnut	6	....	....	....	1,921	1,921
do. Water to Main	6	....	....	873	....	
do. east from Main	6	....	....	211	....	
do. east from Dwight	6	....	....	135	....	1,219
Brightwood ave., west from Plainfield st.	6	....	....	...	176	176
Broad st., west from Main	8	....	1,001	....	....	
do. from 8″ to Hanover	4	....	...	....	52	1,053
Brookline ave.	6	...	....	....	660	660
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. from cement-lined to Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham place	1½	338	....	....	....	338
Buena Vista Plaza, west from Long Hill st. (P.) (S. R.-10,533)	2	423	....	....	....	423
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6″	4	....	....	....	346	1,515
do. crossing to Everett (proposed st.)	4	...	....	....	197	197
Byers st.	6	1,452	....	....	....	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	1,115
do. east from North Main	6	....	....	16	....	16
Cambridge st.	6	....	....	1,601	....	1,601
Carew place, north from Carew st	4	....	....	....	166	166
Carew st., Main to North	16	....	875	....	....	
do. at North (east)	16	....	....	....	5	
do. from 16″ at North (east) to Chestnut	8	....	....	....	799	
do. Chestnut to Arbor	6	....	....	....	951	2,630
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	—	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	....	—	....	
do. east from Armory	6	....	....	11	....	30
Carew st. ave., north from Carew st. (P.) (S. R.-12,009)	1½	323	....	....	....	323
Carlisle ave., south from Wilbraham road	6	....	....	692	....	692
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	628	....	628
Catharine st., State to Dartmouth	12	....	....	1,961	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. Pine to opposite No. 15	2	390	....	....	....	1,644
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	6	....	....	846	....	
do. from 6″ to Cedar	2	360	....	....	....	1,206
Central st., east from Main	4	....	....	....	482	
do. from 4″ to 6″ cast-iron at Maple	6	....	937	....	....	
do. at Maple (west)	6	...	....	....	22	1,441
do. east from Main	8	....	....	579	....	
do. Maple to Mill	8	....	....	4,035	....	4,614
Central st. ave., Central st. to Foster court	6	....	....	292	....	292
Chapel st., east from Eastern ave	6	....	....	411	....	411
Chapin pond, pumping station	8	....	....	163	....	
do. do.	12	....	....	299	...	462
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Charles st., Franklin to Liberty	6	....	....	....	650	650
do. south from Liberty	4	....	....	204	....	204
Charter ave., west from Oak st	2	370	....	....	....	370
Chase ave., east from Fort Pleasant	6	....	....	622	....	622
Cherrelyn ave., south from Phœnix	6	....	....	344	....	344
Cherry st., south from Central	6	....	....	1,130	....	
do. from 6″ to Mill st. (see S. R.-12,558)	1¼	380	....	....	....	1,510
Cherryvale ave	6	....	....	731	....	731
Chester st., south from Central (P) (S. R.-6,931)	2	246	....	....	....	
do. south from 2″ (P) (S. R.-6,931)	1¼	39	....	....	....	285
Chestnut st., brook to 20″ cast-iron at Jefferson ave	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. East Taylor to Edwards	6	....	....	....	1,363	
do. south from Edwards	3	....	208	....	....	
do. from 3″ to State	4	....	625	....	....	8,786
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	26	....	
do. Carew to 12″ near Worth'ton (north)	16	....	....	3,185	....	
do. from 16″ to Worthington	12	....	....	63	....	
do. Worthington to Harrison ave	12	....	....	873	....	
do. Harrison ave to 6″	8	....	....	644	....	
do. from 8″ to State st	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Chicopee Falls road, Ludlow, west from 30″ main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	...	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave., south from Pynchon st	4	....	....	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Clayton ave., Phœnix to Dupont place	6	....	....	1,158	....	1,158
Cleveland st	6	....	....	1,105	....	1,105
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st	4	....	....	504	...	504
Cliftwood ave	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
Clyde st., west from Plainfield	6	....	....	....	316	316
Coleman st., Boston r'd to beyond Embury st	6	....	....	1,036	....	1,036
College ave., State st. to Shattuck ave	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	...	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colonial ave.	6	....	....	850	....	850
Colton st., Wilbraham road to Beacon st	6	....	....	1,680	....	1,680
Columbia terrace, north from Liberty st	6	....	....	246	....	246
Columbus ave., north from Park ave	4	....	....	308	....	
do. north from 4″ (see S. R.-12,137)	1	20	....	....	....	328
Commonwealth ave., Walden st. to beyond Washington	6	....	....	1,326	....	1,326
Concord st., south from Rimmon ave	2	295	....	...	....	295
Concord terrace, no. from Wilbraham road	2	202	....	....	....	202

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Congress st., Main to 4", near Chestnut	6	....	....	....	1,533	
do. from 6" to Chestnut	4	....	....	....	60	1,593
Conn. River R. R., east line of location to east line of Plainfield st. (under tracks, connecting Arch and Washburn sts)	6	....	....	....	226	226
Continental ave., south from Sumner	6	....	....	390	....	390
Cook's ave., Bridge st. to North Church ave.	4	....	....	....	126	126
Cornell place, north from Cornell st.	1¼	106	....	....	....	106
Cornell st.	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck ave.	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P) (S. R.-7,681-8,916)	1¼	169	....	....	....	
do. Walnut st. to Melrose	6	....	....	296	....	
do. north and thence east from Melrose st.	6	....	....	492	....	957
Court st., Main to 8" at Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Crescent st., north from Springfield	6	....	....	384	....	384
Crescent terrace (south roadway) at Fort Pleasant ave	6	....	....	26	....	26
Crosby st., west from Walnut	2	315	....	....	....	315
Cross st., west from Willow	1¼	....	142	....	....	
do. at Willow (east)	6	....	....	12	....	
do. from 6" to Maple st	4	....	....	605	....	759
Crystal ave.	6	....	....	962	....	962
Cypress ave., at Cypress st.	4	....	....	....	9	
do. north from 4" at Cypress st.	3	....	210	...	....	219
Cypress st.	6	....	....	....	720	720
do.	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave.	12	....	...	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	....	....	479	....	479
Davis st., Ludlow, south from Stebbins	1¼	237	....	....	....	237
Dawes st.	6	....	....	1,250	....	1,250
Dawson ave.	2	401	....	....	....	401
Demond ave.	6	...	....	....	922	922
do. at Fisk ave	6	....	....	2	....	2
Denver st., south from Boston road	6	....	....	960	....	960
Dexter st., George to Knox (P) (S. R.-5,322)	2	719	....	....	....	719
Dickinson st., from opposite No. 34 to Oakland st	8	....	....	1,600	....	
do. Oakland to Johnson	6	....	....	163	....	
do. at Johnson (or Parker ave.), east	6	....	....	15	....	
do. Kenwood park to Sumner ave.	6	....	....	1,612	....	3,390
Donald st., at North Main	6	....	....	13	....	13
Dorchester st.	6	....	....	620	....	620
Douglas st., Birnie ave. to North Main	6	....	....	582	....	
do. east from North Main	6	....	...	561	....	1,143
Dresden ave.	6	....	....	805	....	805
Dwight st., State to Worthington	6	....	....	....	1,851	
do. crossing sewer at Worthington (north)	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8" crossing sewer at Worthington, north)	10	....	....	2,322	....	
do. crossing sewer at Worthington (north)	8	....	....	28	....	2,350

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Dymon st	6	....	....	525	....	525
Eagle st., North Main to Chestnut	6	....	....	596	....	596
Earl st., Johnson to Bloomfield	2	299	....	....	....	299
East Court st	4	....	....	584	....	584
Eastern ave., in State st., at 24″ main	8	....	....	18	....	
do. from gate at State st. 24″ main to Tyler st	12	....	....	1,568	....	
do. Tyler street to Pendleton ave	12	350	....	....	....	
do. Pendleton ave. to Melrose st	8	....	....	2,509	....	4,445
East Hooker st., east from North Main	6	....	....	....	361	361
do. east from North Main	4	....	....	14	....	14
Edgeland ave., west from Fort Pleasant	6	....	...	488	....	488
Edwards st.	4	....	....	....	737	737
Elizabeth st., south from Berkshire	1½	326	....	....	....	326
Elliott st	6	....	....	....	1,103	1,103
Elm st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	15	
do. west from Water (P) (S. R.-5,748)	1¼	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	....	....	....	810	810
Emery st	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to 6″ cast-iron near Chestnut	6	....	1,625	....	....	
do. from 6″ cement-lined to Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,440	...	1,440
Euclid ave	6	....	....	1,203	....	1,203
Everett st., Chestnut to near Cass	6	....	....	....	1,186	
do. from 6″ to Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,538
Fairbanks ave., north from Worthington st.	4	....	....	....	261	261
Fairfield st., north from Garfield	6	....	....	934	....	934
Fairview st., east from Groveland ave	6	....	....	96	....	96
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry street, east from Main	6	....	....	....	30	
do. east from 6″	4	....	459	....	....	
do. from 4″ to Chestnut	6	....	....	....	1,083	1,572
Fire reservoirs, sundry streets	4	....	....	....	31	
do. sundry streets	6	....	....	....	86	117
Firglade ave., Sumner to Pineywoods	6	....	....	1,050	....	1,050
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12″ Grace st. line	8	....	....	205	....	941
Five Mile pond pumping station:—						
Suction for small pump	10	....	....	6	....	
" " " " (balance left in)	12	....	....	28	....	
Discharge for small pump	12	....	....	38	....	
Suction for large pump	20	....	....	293	....	
Discharge for large pump	12	....	....	15	...	
Discharge line, connecting pumps with Ludlow Main No. 1	16	....	....	2,755	....	
For fire hydrant at pump house	4	....	....	25	....	3,160
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. from 2″ to Walnut	1	88	....	....	....	1,966
Florentine gardens	6	....	....	594	....	594

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals. in Feet.
Florida street, Bay to 6″ cast-iron at Worthington (south)	6	1,520	....	....	....	
do. at Worthington (south)	6	....	....	14	....	
do. Worthington to Ingersoll grove	6	....	....	850	....	2,384
Forest ave., Belmont to Groveland	6	....	....	2,104	....	2,104
Forest park, from Sumner ave. (P) (S. R.-9,099)	6	....	....	2,610	....	
do. for hydrants (P) (S. R.-9,099)	4	....	....	30	....	2,640
Forest st	6	....	....	843	....	843
Fort st	6	....	....	....	715	715
do. west from Main (P) (S. R.-6,490)	4	....	....	76	....	76
Fort Pleasant ave., Mill st. to junction Belmont ave	12	....	....	167	....	
do. Belmont to Sumner	8	...	....	2,755	....	2,922
Foster court	6	....	....	762	....	762
Franklin st., Main to Charles	6	....	....	....	1,893	
do. east from Charles	1¼	....	131	....	....	2,024
do. Main to Chestnut	8	....	....	1,583	....	
do. west from Cass	6	....	....	514	....	
do. east from Cass (P) (S. R.-6,651)	1¼	128	....	....	....	
do. east from Webster	6	....	....	83	....	
do. near Webster (east) (connecting 6″ and 2″)	1	4	....	....	....	
do. from 6″ to Liberty	2	1,340	....	....	....	3,652
Fremont st	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner ave	8	....	....	329	....	329
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12″	8	....	399	....	....	
do. west from 8″	6	....	150	....	....	
do. from 6″ to Hanover	4	...	....	....	42	1,175
do. Gardner ave. to Hanover st	8	....	....	189	....	189
Garfield st	6	....	....	1,544	....	1,544
Genesee st., at Franklin	1¼	38	....	....	....	
do. north from 1¼″	6	....	....	194	....	232
George st., south from Pine (P) (S. R.-4,979)	2	354	....	....	....	
do. from private 2″ to Maple	2	336	....	....	....	690
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave., crossing to Fisk ave	12	....	....	390	....	1,080
Granada terrace	6	....	....	1,189	....	1,189
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6″	4	....	221	....	....	
do. from 4″ to Emery st	6	....	....	...	14	593
Greene st., Hancock to Eastern ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. from 6″ to Chestnut	4	....	....	....	337	1,608
Grosvenor st	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do. at North Main (east and west)	6	...	....	32	....	32

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Groveland ave., Forest to Fairview st	6	....	....	509	...	509
Grover st	6	....	....	1,380	....	1,380
Gunn square (north roadway) east from Northampton ave. (see S. R.-11,512)	1¼	100	....	....	....	
do. (south roadway) east from Northampton ave	1¼	142	....	....	....	242
Hall st	6	....	....	1,019	....	1,019
Hampden st., at Main	12	.	....	....	28	
do. from cast-iron to Water	12	....	672	....	....	700
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Chestnut to Myrtle	4	750	....	....	....	
do. Myrtle to 6″	4	....	....	662	....	
do. from 4″ to Oak st	6	....	....	35	....	1,447
Hampshire street, I. O	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	....	
do. Florence to Central	6	....	....	1,126	....	
do. at Central (south)	8	....	....	3	....	
do. south from 8″ at Central	4	....	....	225	....	
do. south from 4″	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	513	513
do. Gardner to York (see note)	8	....	....	789	....	789
(NOTE:—Emergency connection at York st. with 6″ low service main in that st)						
Harriet st., Chestnut to North	6	....	....	....	410	410
Harris road, Ludlow, north from North st	6	....	....	1,763	....	1,763
Harrison ave., Main st. to Dwight	6	....	....	....	649	649
do. Main st. to Chestnut	12	....	....	895	...	
do. east from Main st. (for Republican block)	6	....	....	25	....	
do. west from Dwight (short line)	6	....	....	173	....	1,093
Harvard st., Yale to Cornell	6	....	....	1,663	....	1,663
Hawley st	6	515	....	...	....	515
Hawthorn place, Sumner ave. to Park ave	6	....	....	851	....	851
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hayden ave	4	....	....	1,095	....	1,095
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood ave., south from Liberty st. (P) (S. R.-6,720)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. Walnut st. main to Walnut st. east line	6	125	....	....	....	
do. Walnut st. east line to Alden	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. at Woodbine ave. (east)	4	....	....	11	....	
do. east from 4″ at Woodbine ave	3	799	....	....	....	
do. from 3″ to Carlisle branch (east) (see S. R.-11,027)	1¼	1,501	....	....	....	
do. east from 1½″ (see S. R.-11,028)	1	13	....	....	....	
do. south from Wilbraham road (see S. R.-12,284-12,285)	1¼	108	....	....	....	6,208
High st., Maple to School	6	....	....	807	....	
do. School to Walnut	6	1,854	....	....	....	2,661
Highland st., Allen to Orange	6	....	....	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P) (S. R.-8,946)	2	....	120	...	....	120

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Hobson st., south from Berkshire	1¼	192	....	....	....	192
Hollywood st., east from Forest ave	6	....	....	18	....	18
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	....	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard court, south from Howard st. (see S. R.-8,662)	1¼	....	212	....	....	212
Howard place, south from Howard st	4	....	....	....	160	160
Howard st., Main to Water	6	....	....	....	994	
do. west from Water	2	....	420	....	....	
do. west from Water	6	....	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. from 6″ to railroad	4	....	....	304	....	346
Howard st., Ludlow, east from North (P) (S. R.-5,629)	1¼	441	...	....	....	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hunt terrace, north from Allen st	4	....	....	235	...	
do. north from 4″	1¼	108	....	....	....	343
Hyde ave., east from Plainfield st	6	....	....	...	17	17
do. at Fisk ave	4	....	....	7	....	
do. from 4″ to Plainfield st	6	....	....	930	....	937
Hydrants, sundry streets	4	....	952	....	1,552	
do. sundry streets	6	....	....	....	407	2,911
do. sundry streets	4	....	....	3,748	....	
do. sundry streets	6	....	....	3,039	....	
do. sundry streets	8	....	....	169	....	6,956
Indian Orchard road (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James st	4	....	....	959	....	959
Jasper st	6	....	....	1,079	....	1,079
Jefferson ave., at North Main st	8	....	....	....	10	
do. from 8″ to North st	12	....	....	....	876	
do. North st. to Chestnut	16	....	482	....	....	1,368
do. at North Main st	12	....	....	15	....	
do. from 12″ to North st	6	....	....	792	....	807
John st., west from Plainfield	4	....	....	....	259	
do. from 4″ to Fulton	6	....	....	....	419	678
Johnson st	6	....	....	1,930	....	1,930
Keith st	6	....	....	1,122	....	1,122
Kenwood park	6	....	....	800	....	800
Kibbe ave., north from Worthington st	6	....	202	....	....	
do. from cement-lined to Summer st	6	....	....	....	38	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	....	
do. Wilbraham ave to Westford	6	....	....	523	....	3,338
King st. ave., King st. to 1″ at Lebanon	2	367	....	....	....	
do. at Lebanon st	1	7	....	....	....	374
Knox st., Dexter to beyond Smith, (P) (S. R.-5,464)	2	674	....	....	....	
do. south from 2″ (see S. R.-12,534)	1	68	....	....	....	742
Ladd st	6	....	....	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave., west from Plainfield st	6	....	....	....	674	674
Lebanon pl., so. from King st. (P) (S. R.-5,016)	1¼	336	....	....	....	336

MAIN AND DISTRIBUTION PIPE—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lenox st	6	....	....	447	....	447
Lexington ave	6	....	....	....	666	
do. (south side) east from Chestnut st. (P) (S. R.-4,880)	2	....	195	....	....	861
Leyfred terrace, north from Belmont ave	6	....	....	593	....	593
Liberty st., east from Main	6	....	....	...	1,195	
do. from 6″ to Chestnut	4	....	....	....	276	
do. Chestnut to Charles	6	....	....	...	319	1,790
do. Main to Heywood ave	6	....	....	4,037	....	
do. Heywood ave. to Armory st	8	....	....	1,950	....	
do. at Armory (north)	6	....	....	24	....	
do. south from Phœnix ave	8	....	....	164	....	
do. Phœnix ave. to Carew st	8	....	....	1,058	....	7,233
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from 6″ cast-iron	4	....	1,266	....	....	
do. from 4″ cement-lined to Cass	4	....	....	...	16	1,316
Litchfield st., Belmont ave. to Garfield st	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. from cement-lined to Mill	12	....	....	25	....	757
Logan street, at Olive (for flush gate)	6	....	....	10	....	10
Lombard st	4	....	....	....	656	656
Long Hill st., South st. to Cherryvale ave	8	....	....	2,867	....	
do. Cherryvale ave. to opposite E. H. Barney's house	2	1,431	....	....	....	4,298
Loring st., near Main (dead end) to 8″ at Water	6	....	....	....	678	
do. at Water	8	....	....	....	9	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 1.						
From gatehouse to Higher brook as follows:—Crossing highway, thence near and southerly of same through private property, thence recrossing highway and northerly of same through private property to highway at brook	24	....	....	3,736	....	
Higher brook to Federal st. as follows:—Following highway to near Ludlow village, thence westerly, north of Athol branch of B. & A. R. R.—crossing over Chicopee river at "Indian Leap";—thence under tracks of railroad, and south of same to Main st., I. O., just east of Cedar st.;—thence in Main st., I. O., westerly to Myrtle; in Myrtle st. southerly to Berkshire; in Berkshire st. (Indian Orchard road) to State st.; and in State st. to Federal.—(less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	...	....	

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 1. (*Continued.*)						
Federal to Spring, 1,773 feet (see State st)	16	—	....	....	....	
Spring to Main, 2,026 feet (see State st)	16	....	....	—	....	
Under Athol branch tracks of B. & A. R. R. (at Indian Orchard)	24	....	....	135	....	
Under main tracks of B. & A. R. R. (at dry bridge in Indian Orchard road)	24	....	....	80	....	56,411
(NOTE:—Actual total length of Main No. 1 to Main st. is 60,210 feet, or 2,753 feet more than Main No. 2.)						
Supply Main No. 2.						
From gatehouse, through dam	30	....	....	120	....	
From dam to intersection of Main No. 1 as follows:— Crossing highway, thence southerly of same and of Main No. 1, through private property to point of intersection in highway, about midway Ludlow center and Ludlow village	36	....	....	13,388	....	
From intersection of Main No. 1 to 24″ (in Carew st.) as follows:—Crossing highway at point of intersection, thence northerly of Main No. 1, through private property to Chicopee river, just below and west of Indian Orchard, and crossing same under bed of stream; thence through private property to Carew st., just west of St. James ave., and thence in Carew st. to 24″, near Prospect st., east	30	....	....	39,890	....	
From 30″ (in Carew st.) to Chestnut st.	24	....	....	2,380	....	
From Chestnut st. (in Carew st.) to Main —(See NOTE at end of Main No. 1.)—	20	....	....	1,670	....	57,457
At Chicopee river:—Auxiliary main for possible future use, laid across and under bed of stream, west of and parallel to Main No. 2—not connected at either end	30	....	....	300	....	300
A Reservoir.						
From distributing canal to cut-off basin	36	....	....	36	....	
Under cut off dam	36	....	...	132	....	
At Cherry Valley drain gate	20	....	...	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8″ cast-iron	6	....	112	....	....	
do. from 6″ cement-lined to Spring	6	....	....	....	436	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st.	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, Sumner avenue to Pineywoods	6	....	....	1,205	....	1,205

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	10,163
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man hole)	6	....	....	24	....	9,712
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. at 24″ main (east)	8	....	....	24	....	
do. from 8″ at 24″ main (east) to Wilbraham line	6	....	....	3,930	....	4,464
MAIN SUPPLY PIPES—(see "Ludlow reservoir," and "Van Horn reservoir")	—	—	—	—	—	
Malden st., Allen to Grand ave	6	....	....	835	....	835
Manhattan st., Walnut to Eastern ave	6	....	....	1,120	....	1,120
Maple ave., east from Maple st	6	....	....	392	....	392
Maple st., State to Central	6	....	....	....	2,138	2,138
do. Stockbridge to Union	6	....	...	857	....	
do. Union to Central	8	....	....	1,235	....	
do. Central to Pine	6	1,753	....	....	....	
do. op. No. 310 (connecting 6″ and 4″)	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	.	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maple st., Ludlow, east from Harris road	6	...	....	432	....	432
Mapledell st	6	....	....	1,013	....	1,013
Maplewood terrace (north roadway)	6	....	....	1,378	....	1,378
Marble st	8	....	....	....	1,084	1,084
Marengo ave	6	....	....	1,381	....	
do. south side of Marengo park	2	590	....	....	....	1,971
Margaret st., Main to Water	6	...	....	....	884	
do. west from Water	4	....	....	...	566	1,450
do. west from Water	6	....	....	531	....	531
Marion st., Bay to McKnight (see Chapin st. for extension)	6	....	....	889	....	889
Market st., State to Harrison ave	6	....	....	....	1,058	1,058
do. State to Sanford	6	...	....	298	....	
do. south from East Court (P) (S. R.-4,262)	3	90	....	....	....	
do. south from Townsley ave	4	....	....	95	....	483
Marlborough st., east from Norfolk	1¼	86	....	....	....	86
Massasoit st., Carew to Montmorenci	6	...	....	....	1,921	
do. north from Montmorenci (P) (S. R.-6,519)	1¼	....	158	....	....	2,079
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., at Chestnut	6	....	....	....	24	
do. from 6″ to Elliott st.	4	....	601	....	....	625
do. west from Elliott	6	....	....	362	....	362
Maynard ave., south from Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6″	2	....	353	....	....	388
Mechanics row, south from Bliss st	2	....	69	....	....	69
Melrose st., Eastern ave. to Cottage	6	....	....	740	....	740
Mero st., Ludlow, east from Harris road	6	....	....	489	....	489
Merrick ave., King st. to 1″ at Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	354	....	354
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. west from Cherry (see S. R.-12,558)	1¼	70	...	....	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	...	581	....	2,208
Milton st., I. O., south from Main	6	....	....	694	....	
do. south from 6″ (P) (S. R.-10,779 and 10,780)	1¼	203	....	....	....	897
Monmouth st., Berkeley to Yale	6	....	....	479	....	
do. Yale to Dorchester	4	....	....	683	....	1,162
Monroe st., east from Hancock	6	...	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	...	....	730	....	1,708
Monson ave., north from Greene st	2	199	....	....	....	199
Montmorenci st	6	....	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6″	4	....	....	....	63	
do. from 4″ to near North st	6	....	....	....	580	
do. from 6″ to North st	4	....	....	....	75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. from 6″ to Central	8	....	....	....	326	1,110
Mulberry st., east from Maple (for S. R.-4,957)	2	445	....	...	....	
do. from 2″ to School (P) (S. R.-3,708)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Murray Hill ave., Liberty st. to 1″ at Franklin	6	....	....	651	....	
do. at Franklin (connecting)	1	15	....	....	....	666
Myrtle st	4	....	....	548	....	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Berkshire to Essex	8	....	....	627	....	627
National ave., south from Sumner	6	....	....	388	....	388
Nelson ave., King st to 1″ at Lebanon	2	358	...	....	....	
do. at Lebanon st. (north)	1	17	....	....	....	
do. Lebanon st. to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	...	180
Newland st., west from Plainfield	6	....	....	....	1,192	1,192
Noel ave., west from Highland st	6	....	....	813	....	813
Norfolk st., south from Wilbraham road	6	....	....	1,284	....	
do. south from 6″	1¼	38	...	....	....	1,322
North st., Carew to Jefferson ave	16	....	2,000	....	....	
do. south from Calhoun (for S. R.-8,713-9,555)	1¼	....	181	....	....	
do. Calhoun to Harriet	6	....	....	....	972	3,153
North st., at Carew (for hydrant)	6	....	....	51	....	51

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Northampton ave., Wilbraham road to south roadway of Gunn square (south)	6	...	....	1,660	....	1,660
North Church ave	4	....	....	....	400	400
North Main st., at Carew	8	....	....	....	16	
do. from 8″ cast-iron at Carew to near Bancroft (north)—(less cast-iron opposite No. 138-140)	8	....	2,100	....	....	
do. opposite No. 138-140	8	....	....	....	21	
do. near Bancroft (north) to near Hooker (north)	8	....	....	....	1,316	
do. near Hooker (north) to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,641	....	....	
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave	8	....	....	....	28	6,174
do. Carew to Grace	16	....	....	5,415	....	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (west)	4	....	....	14	....	
do. Grace to Chicopee line (P) (S. R.-7,948)	1½	1,740	...	....	...	7,193
Norwood st	6	....	...	....	1,016	1,016
Oak st	6	1,450	....		....	1,450
Oak st., I. O., north from Main	4	....	....	362	....	
do. Main to Hampshire	6	....	....	1,336	....	
do. Hampshire to old Bay road	4	....	....	1,237	....	
do. west and north from Parker	6	....	....	2,328	....	
do. south from Main (for S. R.-10,003)	2	83	....	....	....	
do. south from Worcester (for S. R.-6,671)	1½	150	....	....	....	5,496
Oak Grove ave., north from State st	6	....	....	388	....	388
Oakland st., at Belmon ave	8	....	....	21	...	
do. from 8″ to Orange st	6	....	....	1,872	....	1,893
Olive st	6	...	....	515	....	515
Orange st., Highland to White	6	....	....	1,581	....	
do. east from White	6	....	...	474	....	2,055
Orchard street	6	....	....	....	1,452	1,452
Orleans court, Oak st. to 1½″	1½	255	....	....	....	
do. from 1½″ to Orleans st. (P) (S. R.-7,871-8,111)	1½	182	...	....	....	437
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave	6	....	....	858	....	1,613
Osgood st., North Main to 4″ cast-iron near North	4	....	925	....	...	
do. from 4″ cement-lined to 8″ at North	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	...	21	....	21
Ozark st. north from Orange	6	....	....	480	....	480
Palme ave., east from Locust st	6	....	....	307	...	
do. east from 6″ P) (S. R.-5,695)	2	543	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	....	....	2,649	....	
do. Sumner to Pineywoods	6	....	....	832		3,481
Park st., east from Willow	3	....	....	....	224	
do. east from 3″	6	....	....	....	202	
do. from 6″ cast-iron to same at Maple	6	....	314	....		
do. at Maple	6	....	....	....	30	770

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Parker ave., south from Dickinson st.	6	....	....	448	....	448
Parker st., Main, I. O., to Oak, I. O.	6	....	....	3,677	....	
do. south from Oak, I. O.	4	...	....	920	....	4,597
Pasadena ave., White st. to Johnson	6	....	....	790	....	
do. south from Johnson st.	6	....	....	219	....	1,009
Pasco st., I. O., south from Essex	6	....	....	405	....	405
Patton st., east from Main	4	....	....	....	810	
do. from 4″ to Chestnut	6	....	...	...	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st., Chestnut to Spring	6	....	....	....	992	992
do. Spring to Byers	6	...	....	296	....	
do. Byers to Federal	4	....	....	2,150	....	2,446
Penacook ave., north from Carew st. (P) (S. R.-10,178)	1¼	387	....	....	....	387
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Phœnix ave., east from Liberty st.	6	....	....	502	....	502
Pine st., Walnut to Cedar (6″ gate, north)	6	....	....	1,679	....	
do. Cedar (6″ gate, north) to Maple (west line)	16	1,894	....	....	....	
do. west from 16″ at Maple (west line)	24	114	....	....	....	
do. from 24″ to Mill (north line produced)	16	766		....	....	4,453
Pine st., I.O., Main to beyond Chapman Valve Mfg. Co.'s shops	6	....	....	1,807	....	1,807
Pine st. court	2	365	....	....	....	365
Pineywoods ave., Park boulevard to Hawthorn place	6	....	....	1,753	...	1,753
Plainfield st., north from Bradford	6	...	....	....	17	
do. from 6″, near Bradford, to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6	....	....	....	278	
do. Washburn to Wason ave	8	....	....	....	4,482	6,125
Pleasant st	4	500	.. .	....	....	500
Plymouth st	6	....	....	....	500	500
Pomona ave., Sumner to Granada terrace, (north)	6	....	....	612	....	612
Portsmouth st., east from Eastern ave	6	....	....	243	.. .	243
Princeton st., Bay to Cornell	6	....	....	1,877	...	1,877
Prospect place, south from Prospect st. (P) (S. R.-12,193)	2	....	182	....	...	182
Prospect st., Chestnut to Massasoit	4	....	....	....	614	614
do. west from Carew	6	....	....	46	...	46
Pynchon st., at Water	8	....	...	....	15	
do. east from 8″	6	....	....	....	16	
do. east from 6″	3	....	....	....	800	
do. from 3″ to Main st.	6	....	...	....	35	866
do. Main to beyond City Hall ave	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. from 4″ to Hancock	6	....	....	356	....	776
Quincy st., Oak to 8″ at Hancock (west)	6	....	....	1,427	....	
do. at Hancock (west)	8	....	....	11	....	
do. at Hancock (east)	8	....	....	8	....	
do. from 8″ at Hancock (east) to Eastern ave	6	....	....	1 370	....	
do. Eastern ave. to Colton st.	6	....	....	317	....	3,133

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Railroad st., west from Main	6	....	....	....	234	
do. east from Water (no connection between 6″ and 1¼″)	1¼	....	284	....	....	518
Randall ave., north from Allen st.	4	....	....	380	....	380
Raymond ave., north from Carew st. (P) (S.R.-8,618)	2	158	....	....	....	
do. north from private pipe	2	100	....	....	....	258
Reed st., south from State (P) (S. R.-5,637) (dead end)	2	699	....	....	....	
do. at Wilbraham road (for hydrant only)	6	....	....	9	....	699
Revere st.	6	....	...	1,345	....	1,345
Richelieu place, east from Richelieu st. (P) (S. R.-8,627)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P) (S. R.-8,913)	2	286	....	....	....	
do. west from Mulberry st. (top of hill)	4	....	....	233	....	519
Rimmon ave., Gladwood to Atwater terrace	6	....	....	1,038	....	1,038
Ringgold st	6	....	....	....	753	753
Ripley ave.	2	204	....	....	....	204
Rush ave., south from Berkshire st.	1¼	273	....	....	....	273
Rutland ave., north from Wilbraham road.	1¼	141	....	....	....	
do. north from 1¼″	3	37	....	....	....	178
Rutledge ave., east from Main st.	6	....	....	....	530	530
Sackett's ave., at Worthington st. (P) (S. R.-9,638)	1	10	....	....	....	
do. south from 1″ at Worthington st. (P) (S. R.-9,638)	1¼	190	....	....	....	200
Salem st., Spring to Elliott	6	....	....	....	390	390
do. do.	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. from 6″ to Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to 4″ at Dwight	6	....	....	394	....	
do. at Dwight	4	....	...	6	....	400
Sargeant st.	6	....	....	....	963	963
do. west from Main	6	...	....	194	....	194
School st., State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....	....	
do. from 4″ to Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st.	2	161	....	....	....	
do. south from Noel ave.	6	....	....	229	....	390
Sharon st.	6	....	1,585	....	....	1,585
Shattuck ave., College ave. to Cortland st.	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan st.	2	....	162	....	....	
do. south from 2″	1½	....	54	....	....	216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to opposite No. 164 (P) (S. R.-3,615-3,701)	1	112	....	....	....	1,712
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
Sorrento ave., north from Sumner	6	....	....	259	....	259

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
South st., Mill river to Long Hill st	12	....	....	600	....	
do. south from Long Hill st	8	....	....	1,167	....	
do. south from 8″	6	....	....	411	....	2,178
Spring st., State to Worthington	6	....	1,921	...	....	
do. south from Lyman (dead end)	6	....	...	....	350	2,271
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., east from Chestnut (at brook) to 16″ cast-iron	20	....	585	....	....	
do. from 20″ cement-lined to the same from Van Horn reservoir through meadow	16	....	....	....	265	850
do. Chestnut to Armory	8	....	....	3,413	....	
do. Armory to Gladwood ave	12	....	....	153	....	
do. north from Gladwood ave	6	....	....	182	....	
do. connecting high and low services at hospital (see S. R.-5,547-A.)	4	....	....	9	....	3,757
Spruce st	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., from opposite Gas Co.'s boiler house to Water	6	....	....	....	165	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. from 6″ near Main to Maple	8	....	....	....	772	
do. Maple to Elliott	6	....	...	....	783	
do. Elliott to Spring	6	....	349	...	....	3,112
do. from railroad (west) to Water	4	....	....	330	....	
do. Water to 12″ at Main (west)	8	....	....	923	....	
do. at Main (west)	12	....	....	12	....	
do. Main to Spring	16	....	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. Federal to Indian Orchard road (or Berkshire st.) (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Catharine to Eastern ave., (south of 24″ main—for Catharine st)	12	....	....	138	....	
do. west from College (south of 24″ main —for College st)	8	....	....	93	....	5,295
State st. ave, north from State st	1½	251	....	....	....	251
Stebbins st., State to Union	4	....	....	776	....	776
Stebbins st., Ludlow, west from Harris road	6	....	....	470	....	470
Sterns terrace, north from Central st	2	475	....	....	....	475
St. James ave., State st. to Bay	8	200	....	....	...	
do. Bay to 8″ at Dartmouth (south)	6	....	....	2,694	....	
do. at Dartmouth (south)	8	...	....	12	....	
do. at Dartmouth (north)	6	....	....	12	....	
do. from 6″ at Dartmouth (north) to 6″ near Lafayette	8	....	....	1,321	...	
do. from 8″ near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	...	368	368
do. Maple to Willow	6	....	....	470	....	470
Suffolk st., south from Wilbraham road	6	....	...	1,385	....	1,385
Sullivan st., east from Armory	6	....	....	380	....	380
Summer st., east from Spring	6	...	....	....	43	
do. from 6″ to Autumn st	3	....	644	....	...	
do. Autumn st. to Kibbe ave	8	....	....	....	1,221	
do. north to site of old Athol engine house	4	....	....	....	210	2,118

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Summer st., Kibbe ave., to Armory st.	8	....	....	1,160	....	1,160
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	701	....	
do. Fort Pleasant to Belmont	8	....	...	4,440	....	
do. Belmont to opposite No. 636	8	....	....	1,291	....	6,432
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st	6	....	....	....	735	
do. from cast-iron to Fisk ave	6	....	42	....	....	777
Taylor ave., west from Willow st	2	....	197	....	....	197
Taylor st., east from Chestnut	2	....	350	....	....	350
do. Main to Dwight	8	....	....	843	....	
do. east from Dwight	8	....	....	383	....	
do. from 8″ to Chestnut	6	....	...	44	....	1,270
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st	4	815	....	....	....	815
Thomas street	6	....	....	....	632	632
do. at North Main	6	....	....	44	....	44
Thompson st., State to St. James avenue	8	1,540	....	....	....	
do. St. James avenue to Worthington st.	8	....	....	716	....	2,256
Townsley ave	6	....	....	174	....	174
Tyler st., Oak to Hancock	6	1,440	....	....	...	
do. Hancock to Colton	6	....	...	1,689	....	3,129
Union st., railroad to 4″ cast-iron near Water st	4	....	386	....	....	
do. from 4″ cement-lined to Water	4	....	....	....	49	
do. Water to Maple	6	....	....	....	2,123	2,558
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	....	6,632
VAN HORN RESERVOIR, as follows:—						
From gatehouse through dam	12	....	....	....	200	
From gatehouse through dam	16	....	...	....	200	
From 16″ at dam westerly through meadow to Springfield st	20	....	1,800	....	....	2,200
From Armory street main to upper basin (high service feeder)	6	....	....	278	....	278
Vassar street	6	....	....	542	....	542
Ventura ave	6	....	....	960	....	960
Vernon st	6	....	....	....	910	910
Vine st	6	....	....	....	823	823
do. west from Main	6	....	....	89	...	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walden st., Forest ave. to Commonwealth	6	....	....	302	....	
do. east from Commonwealth ave. (see S. R.-12,275)	1½	202	...	....	....	504
Walker st	6	....	619	....	....	619
do. Water to Gardner ave.	8	....	....	450	....	
do. Gardner ave. to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	830	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	5,127

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., south from Wilbraham road	6	....	....	537	....	537
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Warwick st., east from Heywood ave. (P) (S. R.-6,720)	6	....	....	386	...	
do. completion to Armory	6	....	....	867	...	
do. for hydrants (P) (S. R.-6,720)	4	....	....	24	....	1,277
Washburn st., west from east line of Plainfield	6	....	....	....	1,453	1,453
Washington st., east from Commonwealth ave	6	....	....	228	....	228
Wason ave., west from North Main st	8	...	707	....	...	
do. from 8″ to Fisk ave	12	....	....	....	213	
do. Fisk ave., to near Plainfield st	10	....	....	....	972	
do. from 10″ to Plainfield st	8	....	....	....	15	1,907
do. at Birnie ave. (west)	8	....	....	93	....	
do. at Fisk ave. (east)	12	....	....	15	.. .	
do. at Fisk ave. (west)	8	....	....	14	....	122
Water st., Railroad st. to Hampden	6	....	....	....	308	
do. Hampden to Gardner	12	....	4,810	....	....	
do. Walker to Lombard (for fire reservoir, opposite Walker st.)	6	....	....	....	105	5,223
do. State to Howard	8	....	....	476	....	
do. Margaret to Walker	8	....	....	588	....	1,064
Waverly st., No. Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12″	8	....	....	....	33	
do. from 8″ cast-iron to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., at Pearl st. (north)	4	....	....	....	6	
do. north from 4″	3	....	232	....	....	
do. south from Pearl st. (P) (S. R.-8,496)	1¼	...	142	....	....	380
Webster st	6	....	....	668	. ..	668
Welcome place	6	....	....	252	....	252
Wellesley st	6	....	....	481	....	481
Wellington st., south from Wilbraham road	6	....	....	1,063	....	1,063
Wendell ave., east from Main st	6	....	....	....	465	465
Westford ave., Wilbraham road to King st.	6		....	2,160	....	2,160
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., Allen to hydrant, south of Dawson ave. (opposite house No. 244)	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	419	419
Wight ave., east from Water	6	....	....	....	277	
do. east from 6″	1½	....	157	....	....	434
Wilbraham ave., south from Wilbraham road	6	....	....	1,597	....	
do. 6″ to King st.	8	....	....	542	....	
do. north from Alden st	8	....	....	27	....	2,166
Wilbraham road, Eastern ave. to near Carlisle ave. (west)	12	....	....	3,927	....	
do. from 12″ to opposite House of Good Shepherd	8	....	....	1,631	....	
do. east from 8″ (see S. R.-12,284-12,285)	1¼	421	....	....	....	
do. west from Reed st. (P) (S. R.-7,329)	1¼	153	....	....	....	6,132

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Wilcox st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	3	
do. at Water (west)	8	....	....	....	3	
do. from 8″ at Water (west) to railroad	4	....	....	....	457	1,428
Willard ave., near State st., to Shattuck avenue	6	....	....	714	....	
do. at Shattuck ave. (north)	6	....	....	8	....	722
William st., railroad to Water	6	....	523	....	....	
do. east from Main	6	....	....	....	23	
do. east from 6″	4	....	227	....	....	
do. from 4″ to Dale	6	....	....	....	388	1,161
do. Water to Main	6	....	....	971	....	
do. east from Main	6	....	....	248	....	1,219
Willow st., State to Taylor ave.	6	....	....	....	630	
do. at Taylor ave. (south)	4	....	....	....	3	
do. from 4″ at Taylor ave. (south) to Park st	3	....	....	....	153	786
do. State to Hubbard ave	10	....	....	1,220	....	1,220
Winchester st	4	543	....	....	....	543
Windsor ave	1¼	485	....	....	....	485
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st	6	....	....	....	697	697
Wolcott st., east from Liberty	6	....	....	306	....	306
Woodbine ave., north from Hickory st	4	....	....	327	....	
do. north from 4″ (P) (S. R.-8,185)	1¼	192	....	....	....	519
Woodside ave	6	....	....	449	....	449
Woodworth ave	2	457	....	....	....	457
Worcester ave., east from Plainfield st	6	....	....	....	811	
do. from 6″ to Fisk ave	4	....	....	....	52	863
Worcester st., I. O., Myrtle to Oak	6	....	....	735	....	
do. Oak to Pine	2	593	....	....	....	
do. east from Pine	6	....	....	576	....	1,904
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Spring	6	....	....	....	2,114	
do. Spring to Kibbe ave	6	....	1,857	....	....	4,122
do. west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near No. 176	10	....	....	559	....	
do. near No. 176 to Bowdoin	8	....	....	4,672	....	
do. Bowdoin to St. James ave	12	....	....	1,654	....	7,781
Yale st., Dartmouth to Monmouth	6	...	....	1,666	....	1,666
York st, west from Main	8	....	281	....	....	
do. west from wrought-iron	8	...	....	....	183	
do. from 8″ to Hanover (west) (see note) (NOTE:—6″ connected at Hanover with 8″ high service main in that street, and actually high service west of east end of jail.)	6	....	....	....	497	961
Totals	....	128,629	53,449	445,618	136,259	763,955

MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	HIGH SERVICE.			LOW SERVICE.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
1-inch	989	.....	989	260	.....	260	1,249
1¼-inch	6,523	.....	6,523	1,840	.....	1,840	8,363
1½-inch	4,437	.....	4,437	353	.....	353	4,790
2-inch	19,840	.....	19,840	3,000	.....	3,000	22,840
3-inch	926	.....	926	1,326	1,177	2,503	3,429
4-inch	5,779	40,600	46,379	7,562	12,400	19,962	66,341
6-inch	15,588	214,849	230,437	11,428	96,157	107,585	338,022
8-inch	10,317	79,045	89,362	9,482	15,758	25,240	114,602
10-inch	.....	4,107	4,107	.....	972	972	5,079
12-inch	1,782	25,223	27,005	8,084	8,997	17,081	44,086
16-inch	9,874	19,589	29,463	6,014	788	6,802	36,265
20-inch	.....	1,999	1,999	4,100	10	4,110	6,109
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,319	40,319	.....	.....	.....	40,319
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	128,629	445,618	574,247	53,449	136,259	189,708	763,955

RECAPITULATION BY MATERIAL.

MATERIAL.	HIGH SERVICE.		LOW SERVICE.		TOTALS.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	128,629	24.36	53,449	10.12	182,078	34.48
Cast-Iron	445,618	84.40	136,259	25.81	581,877	110.21
Totals	574,247	108.76	189,708	35.93	763,955	144.69

GATES SET IN 1900.

(INCLUDING THOSE ADDED.)

ONE AND ONE-QUARTER INCH.

Cherry street, at end of 6″,	High,	1	
Hickory street, at Wilbraham road,	High,	1	
Hobson street, at Berkshire,	High,	1	
Wilbraham road, at end of 8″,	High,	1	
		—	4

ONE AND ONE-HALF INCH.

Belmont court, at Belmont avenue,	High,	1	
Elizabeth street, at Berkshire,	High,	1	
Walden street, at Commonwealth avenue (east),	High,	1	
		—	3

TWO INCH.

Allen street, west of railroad (flush),	High,	1	
Armory street, at Armory street avenue (flush),	High,	1	
Brookline avenue, at No. 50 (flush),	Low,	1	
Chapel street, near No. 30 (flush),	High,	1	
Crosby street, at No. 28 (flush),	High,	1	
Dale street, at No. 3 (flush),	Low,	1	
Dawson avenue, near Pasadena (flush),	High,	1	
Dresden avenue, midway (flush),	High,	1	
Everett street, at No. 145 (flush),	Low,	1	
Grove street, at No. 34 (flush),	Low,	1	
Hawthorn place, at No. 54 (flush),	High,	1	
John street, near Plainfield (flush),	Low,	1	
King street avenue, at Lebanon street (north) (flush),	High,	1	
McKnight street, at No. 42 (flush),	High,	1	
Melrose street, west of Eastern avenue (flush),	High,	1	
Monmouth street, east of Yale (flush),	High,	1	
Prospect place, at Prospect street (private),	Low,	1	
Rutledge avenue, at No. 52 (flush),	Low,	1	
Winchester street, at No. 35 (flush),	High,	1	
		—	19

THREE INCH.

Butler street, at No. 147 (flush),	Low,	1	
Catharine street, near No. 33 (flush),	High,	1	
Cortland street, near Shattuck avenue (flush),	High,	1	
Orchard street, near No. 93 (flush),	Low,	1	
Walnut street, near Oak (flush),	High,	1	
White street, at Dawson avenue (flush),	High,	1	
		—	6

FOUR INCH.

Bridge street, for Nos. 64-66 (private),	High,	2	
Dwight street, for Stephen E. Seymour (private).	High,	1	
Liberty street, for F. M. West (private),	High,	1	
Main street, for Bemis & Call (private),	High,	1	
Main street, for Nos. 254-268, Vinton and Nelson (private),	High,	1	
		—	6

SIX INCH.

Alderman street, at Dickinson,	High,	1
Armory street, for schoolhouse (private),	High,	1
Boston road, at Berkshire street,	High,	1
Boston road, for Saint Michael's cemetery (private).	High,	1
Central street, for Springfield Knitting Company (private),	High,	1
Crystal avenue, at Dickinson street,	High,	1
Dickinson street, at Oakland (west),	High,	1
Euclid avenue, at Dickinson street,	High,	1
Fairview street, at Groveland avenue,	High,	1
Forest avenue, at Groveland,	High,	1
Forest avenue, at Malden street (south).	High,	1
Hall street, at Dickinson.	High,	1
Hillman street, for the "Alaska" building (private),	High,	1
Hollywood street, at Forest avenue,	High,	1
Keith street, at Dickinson,	High,	1
Marengo avenue, at Dickinson street,	High,	1
Ozark street, at Orange,	High,	1
Sargeant street, at Main (connecting),	Low,	1
Washington street, at Commonwealth avenue (east),	High,	1

William street, at Main, ...	High,	1	
William street, for schoolhouse (private), .	*Low,	1	
			21

EIGHT INCH.

Bellevue avenue, at Dickinson street, . .	High,	1	
Dickinson street, at Marengo avenue (west), .	High,	1	
			2
Total number of gates added in 1900, .			61

*Became high service in November.

GATES TAKEN OUT IN 1900.

(INCLUDING THOSE ABANDONED)

ONE INCH.			
Liberty street, at Charles (east),	Low,	1	
		—	1
ONE AND ONE-QUARTER INCH.			
Dale street, at No. 3 (flush),	Low,	1	
John street, near Plainfield (flush),	Low,	1	
Park avenue, at end of 6″ (flush),	High,	1	
Wilbraham road, at Benton street (private) (S. R. 7817) (account 1897),	High,	1	
		—	4
FOUR INCH.			
Liberty street, at Hawkins' Foundry,	Low,	1	
		—	1
SIX INCH.			
Kenwood avenue, at Bellevue (old location),	High,	1	
La Verne avenue, at Bellevue (old location),	High,	1	
William street, at Main (west),	Low,	1	
		—	3
Total number of gates deducted in 1900,			9

Number of gates December 1, 1899,		1,837
Number of gates added in 1900,	61	
Number of gates deducted in 1900,	9	
Net addition in 1900,		52
Total number of gates December 1, 1900,		1,889

FIRE HYDRANTS SET IN 1900.

HIGH SERVICE.

Bay street, S. E. corner Pleasant street,	1	
Central street, midway Main and Maple,	1	
Fairview street, N. E. corner Groveland avenue,	1	
Groveland avenue, N. E. corner Forest,	1	
Hollywood street, N. E. corner Forest avenue,	1	
Park avenue, at Pineywoods,	1	
Pearl street, opposite No. 242,	1	
		7

LOW SERVICE.

Fulton street, N. E. corner Cypress,	1	
Sharon street, front of No. 52,	1	
		2
Total number of city hydrants set in 1900,		9

HIGH SERVICE — PRIVATE.

Main street, for Bemis & Call,	1	
		1

FIRE HYDRANTS TAKEN OUT IN 1900.

HIGH SERVICE.

Bay street, S. E. corner Pleasant,	1	
Kenwood avenue, at Bellevue (old location),	1	
Pearl street, front of No. 242,	1	
		3

LOW SERVICE.

Butler street, N. E. corner Chestnut,	1	
Fulton street, N. E. corner Cypress,	1	
Liberty street, front of Hawkins' foundry,	1	
Sharon street, front of No. 52,	1	
		4
Total number of city hydrants taken out in 1900,		7
Number of city hydrants as per report December 1, 1899,		953
Number of city hydrants set in 1900,	9	
Number of city hydrants taken out in 1900,	7	
Net addition, 1900,		2
Total number of city hydrants December 1, 1900,		955
{ High service, 698		
{ Low service, 257		
Number of private hydrants December 1, 1899,	90	
Number of private hydrants set in 1900,	1	
Total number of private hydrants December 1, 1900,		91
Total number of hydrants connected with the works, December 1, 1900,		1,046

FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets,	Chapman
2.	L.	N. W. corner Main and Cypress streets,	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue,	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street,	Chapman
5.	L.	Gray's avenue, west side, midway,	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets,	Chapman
7.	H.	N. E. corner Cypress and Boylston streets,	Chapman
8.	L.	N. E. corner Fulton and Cypress streets,	Chapman
9.	H.	N. E. corner Fulton and Cypress streets,	Chapman
10.	H.	N. E. corner Fulton and Emery streets,	Chapman
11.	L.	N. E. corner Fulton and Emery streets,	Chapman
12.	H.	N. E. corner Emery and Boylston streets,	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue,	Chapman
14.	H.	S. W. corner Main and Emery streets,	Chapman
15.	H.	N. W. corner Main and Clinton streets,	Chapman
16.	L.	Clinton street, south side, midway,	Chapman
17.	L.	N. E. corner Fulton and Clinton streets,	Chapman
18.	L.	N. E. corner Fulton and Vine streets,	Chapman
19.	L.	Vine street, south side, midway,	Chapman
20.	H.	N. W. corner Main and Vine streets,	Chapman
21.	H.	N. W. corner Main and Holyoke streets,	Chapman
22.	L.	Holyoke street, north side, midway,	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets,	Chapman
24.	L.	N. E. corner Fulton and Auburn streets,	Chapman
25.	L.	Auburn street, north side, midway,	Chapman
26.	H.	S. W. corner Main and Auburn streets,	Chapman
27.	H.	S. W. corner Main and Seventh streets,	Chapman
28.	L.	Seventh street, north side, midway,	Perkins
29.	L.	N. E. corner Fulton and Seventh streets,	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets,	Chapman
31.	L.	Sargeant street, south side, midway, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
32.	H.	N. W. corner Main and Sargeant streets,	Chapman
33.	H.	N. W. corner No. Main and Bradford streets,	Chapman
34.	L.	Bradford street, north side, midway,	Chapman
35.	L.	N. E. corner Fulton and Bradford streets,	Chapman
36.	L.	N. E. corner Fulton and John streets,	Chapman
37.	L.	S. W. corner Plainfield and John streets,	Chapman
38.	L.	Plainfield street, west side, near Plymouth,	Chapman
39.	L.	Fulton street, opposite M. Dunn's house, Round Hill,	Chapman
40.	L.	Plainfield street, east side, at Fulton,	Chapman
41.	L.	N. W. corner Plainfield and Washburn streets,	Chapman
42.	L.	N. W. corner Plainfield and Lowell streets,	Chapman
43.	L.	Lowell street, north side, midway,	Chapman
44.	L.	Lowell street, north side, at end of street,	Chapman
45.	L.	Washburn street, north side, midway,	Chapman
46.	L.	Washburn street, north side, at end of street,	Chapman
47.	L.	Orchard street, north side, at end of street,	Chapman
48.	L.	Orchard street, north side, midway, 6″ S. con.,	Chapman
49.	L.	Orchard street, N. W corner Plainfield,	Chapman
50.	L.	Newland street, N. W. corner Plainfield, 6″ S. con.,	Chapman
51.	L.	Newland street, north side, end of pipe, 6″ S. con.,	Chapman
52.	L.	Clyde street, N. W. corner Plainfield, 6″ S. con.,	Chapman
53.	L.	Plainfield street, east side, opposite Clayton,	Chapman
54.	L.	Abbe avenue, N. W. corner Plainfield street,	Chapman
55.	L.	Abbe avenue, just east of No. 154, 6″ S. con.,	Chapman
56.	L.	Talcott avenue, N. E. corner Plainfield street,	Chapman
57.	L.	Talcott avenue, north side, midway,	Chapman
58.	L.	N. W. corner Fisk and Talcott avenues,	Chapman
59.	H.	S. W. corner Fisk and Worcester avenues,	Chapman
60.	L.	N. W. corner Fisk and Worcester avenues,	Chapman
61.	L.	Worcester avenue, north side, midway,	Chapman
62.	L.	N. E. corner Plainfield street and Worcester avenue,	Chapman
63.	L.	N. E. corner Plainfield street and Demond avenue,	Chapman
64.	L.	Demond avenue, north side, midway,	Chapman
65.	H.	S. W. corner Fisk and Demond avenues,	Chapman
66.	H.	Fisk avenue, east end of Holyoke Card and Paper Co.'s shop,	Chapman
67.	H.	S. W. corner Fisk and Hyde avenues,	Chapman
68.	H.	Hyde avenue, S. E. corner Plainfield street,	Chapman

No.	High or Low.	Location.	Make.
69.	L.	N. E. corner Plainfield street and Hyde avenue,	Chapman
70.	L.	S. E. corner Plainfield street and Wason avenue,	Chapman
71.	H.	S. W. corner Wason and Fisk avenues,	Chapman
72.	L.	S. E. corner Wason and Fisk avenues,	Matthews
73.	L.	Wason avenue, north side, opposite No. 31,	Chapman
74.	H.	Birnie avenue, S. E. corner Wason, 6",	Chapman
75.	L.	North Main street, opposite Wason avenue,	Chapman
76.	H.	Birnie avenue, 200 feet north of Grace street,	Chapman
77.	H.	S. E. corner Birnie avenue and Grace street,	Chapman
78.	L.	Birnie avenue, at the end of Grace street,	Ayers
79.	H.	S. W. corner No. Main and Grace streets,	Chapman
80.	H.	N. W. corner No. Main and Walter streets,	Chapman
81.	H.	Birnie avenue, S. E. corner Alfred street, 6",	Perkins
82.	H.	Birnie avenue, S. E. corner Douglas street,	Chapman
83.	H.	Birnie avenue, south of preceding,	Chapman
84.	L.	Birnie avenue, between the two preceding, 6" S. con.,	Chapman
85.	H.	Douglas street, N. W. corner No. Main,	Chapman
86.	H.	Douglas street, north side, east end of pipe, 6" S. con.,	Chapman
87.	H.	N. E. corner No. Main and Grove streets,	Chapman
88.	L.	N. W. corner No. Main and Hooker streets,	Chapman
89.	H.	East Hooker street, N. E. corner No. Main, 6" S. con.,	Chapman
90.	L.	N. E. corner No. Main and Calhoun streets,	Chapman
91.	H.	S. E. corner No. Main and Calhoun streets,	Chapman
92.	L.	N. E. corner No. Main street and Jefferson avenue,	Chapman
93.	H.	Jefferson avenue, midway No. Main and North streets, 6" S. con.,	Chapman
94.	L.	Arch street, north side, front of No. 36,	Chapman
95.	H.	N. W. corner No. Main and Arch streets,	Perkins
96.	L.	Bancroft street, south side, midway,	Chapman
97.	H.	N. E. corner No. Main and Bancroft streets,	Chapman
98.	L.	N. E. corner No. Main and Bancroft streets,	Chapman
99.	H.	S. E. corner No. Main and Osgood streets,	Chapman
100.	L.	Morgan street, south side, midway,	Chapman
101.	H.	N. E. corner No. Main and Morgan streets,	Chapman
102.	L.	S. E. corner No. Main and Morgan streets, 6" S. con.,	Chapman

No.	High or Low.	Location.	Make.
103.	H.	S. E. corner No. Main and Church streets,	Chapman
104.	H.	North street, N. E. corner Carew,	Chapman
105.	L.	N. E. corner Carew and North streets, 6″ S. con.,	Chapman
106.	L.	Carew place, east side, end of pipe,	Chapman
107.	H.	S. E. corner Main and Carew streets,	Chapman
108.	H.	S. E. corner Main and Bond streets,	Chapman
109.	L.	N. E. corner Main and Bond streets,	Chapman
110.	L.	Bond street, north side, midway,	Chapman
111.	L.	Bond street, north side, front of Nos. 110-112,	Chapman
112.	L.	N. W. corner Chestnut and Patton streets,	Chapman
113.	L.	Patton street, north side, front of No. 54,	Chapman
114.	L.	N. E. corner Main and Patton streets,	Chapman
115.	H.	S. E. corner Main and Patton streets,	Chapman
116.	H.	N. E. corner Main and Essex streets,	Chapman
117.	L.	N. E. corner Main and Essex streets,	Perkins
118.	L.	Essex street, north side, opposite No. 51,	Perkins
119.	L.	Essex street, north side, front of No. 98,	Perkins
120.	L.	N. W. corner Chestnut and Tenth streets,	Chapman
121.	L.	Tenth street, north side, opposite Nos. 105-107,	Chapman
122.	L.	Tenth street, north side, front of Nos. 54-56,	Chapman
123.	H.	N. E. corner Main and Tenth streets,	Chapman
124.	H.	N. E. corner Main and Greenwood streets,	Chapman
125.	L.	Greenwood street, north side, front of No. 42,	Chapman
126.	L.	Greenwood street, north side, opposite No. 83,	Chapman
127.	L.	Greenwood street, north side, front of No. 118,	Chapman
128.	H.	S. W. corner Chestnut and Franklin streets,	Chapman
129.	H.	Franklin street, south side, front of Nos. 111-113,	Chapman
130.	H.	Franklin street, south side, at stone yard,	Chapman
131.	H.	Franklin street, south side, opposite No. 46,	Chapman
132.	L.	N. E. corner Main and Franklin streets,	Chapman
133.	H.	Franklin street, S. E. corner Main, 6″ S. con.,	Chapman
134.	H.	S. E. corner Main and Congress streets,	Chapman
135.	L.	Congress street, north side, opposite No. 33,	Chapman
136.	L.	Congress street, north side, opposite No. 97,	Chapman
137.	L.	N. W. corner Chestnut and Sharon streets,	Perkins
138.	L.	Sharon street, north side, front of No. 92,	Perkins
139.	L.	Sharon street, north side, front of No. 52,	Chapman
140.	H.	S. E. corner Main and Sharon streets,	Chapman
141.	H.	S. E. corner Main and Ferry streets,	Chapman

No.	High or Low.	Location.	Make.
142.	L.	Ferry street, north side, front of No. 46,	Chapman
143.	L.	Ferry street, north side, opposite No. 97,	Chapman
144.	L.	Chestnut street, west side, opposite Liberty,	Perkins
145.	H.	Chestnut street, opposite Ferry, 6″ S. con.,	Chapman
146.	H.	Chestnut street, opposite No. 275, 6″ S. con.,	Chapman
147.	H.	Chestnut street, opposite Sharon, 6″ S. con.,	Chapman
148.	H.	Chestnut street, east side, opposite Congress,	Chapman
149.	H.	Chestnut street, S. E. corner Franklin, 6″ S. con.,	Chapman
150.	L.	Franklin street, north side, west of Cass, 6″ S. con.,	Chapman
151.	H.	Chestnut street, opposite Greenwood, 6″ S. con.,	Chapman
152.	H.	Chestnut street, opposite Tenth, 6″ S. con.,	Chapman
153.	H.	N. E. corner Chestnut and Linden streets, 6″ S. con.,	Chapman
154.	L.	Linden street, near S. E. corner Chestnut,	Chapman
155.	L.	Linden street, south side, opposite No. 46,	Perkins
156.	L.	S. W. corner Cass and Linden streets,	Chapman
157.	L.	S. W. corner Cass and Everett streets,	Chapman
158.	L.	Everett street, south side, midway,	Chapman
159.	H.	Chestnut street, opposite Patton, 6″ S. con.,	Chapman
160.	L.	S. E. corner Chestnut and Everett streets,	Chapman
161.	L.	Arbor street, east side, front of No. 40,	Chapman
162.	H.	Prospect street, S. W. corner Carew, 6″ S. con.,	Chapman
163.	H.	Massasoit street, N. E. corner Carew,	Chapman
164.	L.	N. W. corner Carew and Massasoit streets, 6″ S. con.,	Chapman
165.	H.	Chestnut street, S. E. corner Carew,	Chapman
166.	L.	N. E. corner Chestnut and Carew streets,	Chapman
167.	L.	N. W. corner Chestnut and Grosvenor streets,	Chapman
168.	L.	Grosvenor street, south side, midway,	Chapman
169.	L.	N. E. corner North and Grosvenor streets,	Chapman
170.	L.	N. E. corner North and Ringgold streets,	Chapman
171.	L.	S. W. corner North and Morgan streets,	Chapman
172.	L.	Ringgold street, south side, midway,	Chapman
173.	L.	S. W. corner Chestnut and Ringgold streets,	Chapman
174.	L.	N. W. corner Chestnut and Hebron streets,	Chapman
175.	L.	Hebron street, north side, midway,	Chapman
176.	L.	S. W. corner Prospect and Massasoit streets,	Chapman
177.	L.	N. W. corner Chestnut and Allendale streets,	Chapman

No.	High or Low.	Location.	Make.
178.	L.	Allendale street, south side, midway,	Chapman
179.	L.	N. W. corner North and Osgood streets,	Chapman
180.	L.	S. W. corner North and Bancroft streets,	Perkins
181.	L.	Brookline avenue, S. W. corner Chestnut street, 6″ S. con.,	Chapman
182.	L.	S. W. corner Chestnut and Bancroft streets,	Chapman
183.	L.	Lexington avenue, N. W. corner Massasoit street,	Chapman
184.	L.	S. W. corner North street and Jefferson avenue,	Chapman
185.	H.	N. W. corner North street and Jefferson avenue, 6″ S. con.,	Chapman
186.	L.	N. W. corner Montmorenci and Massasoit streets,	Chapman
187.	L.	Montmorenci street, north side, midway,	Chapman
188.	L.	N. W. corner Chestnut street and Jefferson ave.,	Chapman
189.	L.	Calhoun street, north side, at North,	Chapman
190.	L.	Alexander street, N. E. corner North,	Chapman
191.	L.	S. W. corner Chestnut and Waverly streets,	Chapman
192.	L.	Harriet street, N. E. corner North, 6″ S. con.,	Chapman
193.	L.	Chestnut street, west side, near Springfield,	Chapman
194.	H.	Merwin street, N. W. corner Chestnut, S. con.,	Chapman
195.	H.	Eagle street, N. W. corner Chestnut, S. con.,	Chapman
196.	H.	Springfield street, opposite city hospital, 6″ S. con.,	Chapman
197.	H.	Springfield street, midway Chestnut and Armory, 6″ S. con.,	Chapman
198.	H.	Atwater terrace, north side, end of pipe,	Chapman
199.	H.	Rimmon avenue, south side, end of pipe,	Perkins
200.	H.	Rimmon avenue, S. W. corner Gladwood,	Perkins
201.	H.	Springfield street, S. W. corner Armory,	Perkins
202.	H.	Armory street, front of truant school, 6″ S. con.,	Chapman
203.	H.	N. E. corner Carew and Armory streets,	Chapman
204.	H.	Grover street, N. E. corner Armory, 6″ S. con.,	Chapman
205.	H.	Grover street, N. W. corner Liberty, 6″ S. con.,	Chapman
206.	H.	Clayton avenue, east side, end of pipe, 6″ S. con.,	Chapman
207.	H.	Cherrelyn avenue, S. E. corner Phœnix, 6″ S. con.,	Chapman
208.	H.	Cleveland street, N. W. corner Liberty, 6″ S. con.,	Chapman
209.	H.	Cleveland street, N. E. corner Armory, 6″ S. con.,	Chapman
210.	H.	Sullivan street, N. E. corner Armory, 6″ S. con.,	Chapman
211.	H.	S. E. corner Liberty and Armory streets,	Chapman

No.	High or Low.	Location.	Make.
212.	H.	Armory street, east side, opposite Wolcott, 6″ S. con.,	Chapman
213.	H.	Liberty street (about 500 feet W. of Armory street), 6″ S. con.,	Chapman
214.	H.	Liberty street, front of Gurdon Bill's, 6″ S. con.,	Chapman
215.	H.	Columbia terrace, west side, at end of pipe, 6″ S. con.,	Chapman
216.	H.	S. W. corner Liberty street and Heywood avenue,	Chapman
217.	H.	Warwick street, north side, opposite Taber-Prang Co.'s shop, 6″ S. con.,	Chapman
218.	H.	Liberty street, south side, opposite Webster,	Chapman
219.	H.	N. E. corner Liberty and Vinton streets,	Chapman
220.	H.	Vinton street, S. E. corner Franklin,	Chapman
221.	H.	Webster street, S. W. corner Franklin, 6″ S. con.,	Chapman
222.	H.	Cass street, S. E. corner Franklin,	Chapman
223.	H.	Franklin street, north side, midway Cass and Charles, 6″ S. con.,	Chapman
224.	H.	Liberty street, south side, opposite Cass,	Chapman
225.	H.	Liberty street, north side, front of No. 200,	Chapman
226.	H.	S. E. corner Liberty and Charles streets,	Chapman
227.	L.	Charles street, west side, midway Franklin and Liberty, 6″ S. con.,	Chapman
228.	H.	Charles street, west side, near B. & A. R. R. freight house,	Chapman
229.	H.	S. E. corner Chestnut and Liberty streets,	Chapman
230.	H.	N. E. corner Chestnut and Charles streets,	Chapman
231.	H.	S. W. corner Chestnut and Liberty streets,	Chapman
232.	H.	N. W. corner Chestnut and Liberty streets, 6″ S. con.,	Chapman
233.	L.	Liberty street, north side, opposite Day & Jobson's planing mill,	Perkins
234.	H.	Liberty street, south side, front of R. R. station,	Chapman
235.	L.	Liberty street, south side, opposite No. 74,	Chapman
236.	L.	Liberty street, south side, east of Cooley's hotel,	Chapman
237.	H.	Liberty street, south side, east of Cooley's hotel,	Chapman
238.	L.	Liberty street, S. E. corner Main, 6″ S. con.,	Chapman
239.	H.	S. E. corner Main and Liberty streets, 6″ S. con.,	Chapman
240.	H.	Main street, east side, just north of arch,	Chapman
241.	L.	Railroad street, S. W. corner Main, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
242.	L.	Railroad street, at driveway of Massasoit house, 6″ S. con.,	Chapman
243.	L.	S. E. corner Water and Railroad streets,	Matthews
244.	H.	S. E. corner Water and Hampden streets,	Perkins
245.	H.	Hampden street, north side, midway,	Perkins
246.	L.	S. W. corner Main and Hampden streets, 6″ S. con.,	Chapman
247.	L.	Fort street, south side, midway,	Chapman
248.	L.	S. E. corner Water and Fort streets,	Chapman
249.	L.	S. W. corner Main and Worthington streets,	Chapman
250.	L.	N. W. corner Main and Bridge streets,	Chapman
251.	H.	Bridge street, north side, opposite Bond place,	Chapman
252.	H.	Bond place, west side, south end,	Chapman
253.	H.	Bridge street, south side, front of No. 43,	Matthews
254.	L.	N. E. corner Water and Bridge streets,	Chapman
255.	H.	N. W. corner Water and Bridge streets,	Chapman
256.	L.	Wight avenue, north side, at end of avenue,	Chapman
257.	L.	N. E. corner Water and Vernon streets,	Chapman
258.	L.	Vernon street, north side, midway,	Chapman
259.	H.	N. W. corner Main and Vernon streets,	Matthews
260.	L.	Main street, west side, front of No. 360, 6″ S. con.,	Chapman
261.	L.	Main street, west side, front of No. 388, 6″ S. con.,	Chapman
262.	L.	S. W. corner Main and Vernon streets,	Chapman
263.	H.	N. W. corner Main and Pynchon streets,	Matthews
264.	L.	S. W. corner Main and Pynchon streets,	Chapman
265.	H.	Pynchon street, south side, front of city hall park,	Chapman
266.	H.	City Hall avenue, west side, midway,	Chapman
267.	L.	N. E. corner Water and Pynchon streets,	Chapman
268.	L.	Court street, south side, near Water,	Chapman
269.	L.	Court street, south side, midway,	Chapman
270.	H.	Court street, south side, opposite City hall, 6″,	Perkins
271.	L.	N. W. corner Main and Court streets, 6″ S. con.,	Chapman
272.	H.	S. W. corner Main and Court streets,	Chapman
273.	H.	N. W. corner Main and Elm streets, 6″,	Perkins
274.	L.	S. W. corner Main and Elm streets, 6″ S. con.,	Chapman
275.	H.	Elm street, S. W. corner Court square,	Chapman
276.	L.	Elm street, south side, midway,	Chapman
277.	L.	N. E. corner Water and Elm streets,	Chapman
278.	H.	State street, west of N. Y., N. H. & H. R. R.,	Chapman

No.	High or Low.	Location.	Make.
279.	H.	N. E. corner Water and State streets, 6″,	Perkins
280.	L.	S. E. corner Water and State streets,	Chapman
281.	H.	State street, north side, front of No. 52, 6″ S. con.,	Chapman
282.	L.	State street, south side, front of No. 71, 6″ S. con.,	Chapman
283.	H.	State street, north side, near Court House,	Chapman
284.	L.	S. W. corner Main and State streets,	Chapman
285.	H.	N. W. corner Main and Bliss streets,	Chapman
286.	L.	S. W. corner Main and Bliss streets, 6″ S. con.,	Chapman
287.	L.	Bliss street, south side, front of No. 29,	Chapman
288.	L.	Bliss street, south side, front of Nos. 57-59,	Chapman
289.	H.	Water street, N. E. corner Bliss,	Chapman
290.	L.	N. E. corner Water and Bliss streets,	Chapman
291.	L.	Bliss street, south side at railroad, 6″ S. con.,	Chapman
292.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.,	Chapman
293.	L.	Howard street, south side, near N. Y., N. H. & H. R. R.,	Perkins
294.	H.	Water street, N. E. corner Howard,	Chapman
295.	L.	N. W. corner Water and Howard streets,	Chapman
296.	L.	Howard street, south side, front of No. 43,	Perkins
297.	H.	N. W. corner Main and Howard streets,	Chapman
298.	L.	S. W. corner Main and Howard streets,	Chapman
299.	L.	S. W. corner Main and Union streets,	Chapman
300.	L.	Union street, south side, midway Main and Water,	Chapman
301.	H.	Union street, north side, midway Main and Water,	Chapman
302.	L.	S. E. corner Water and Union streets,	Chapman
303.	L.	Wilcox street, north side, near railroad,	Chapman
304.	L.	S. E. corner Water and Wilcox streets,	Chapman
305.	L.	Wilcox street, south side, front of No. 47,	Chapman
306.	H.	N. W. corner Main and Wilcox streets,	Chapman
307.	L.	S. W. corner Main and Wilcox streets,	Chapman
308.	H.	S. W. corner Main and William streets,	Chapman
309.	H.	William street, north side, front of No. 120,	Chapman
310.	H.	William street, north side, opposite No. 83,	Chapman
311.	L.	N. W. corner Water and William streets,	Perkins
312.	L.	William street, north side, near railroad,	Perkins
313.	L.	Margaret street, north side, near railroad,	Chapman
314.	H.	Margaret street at street railway power house, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
315.	H.	Water street, S. W. corner Margaret, 6″ S. con.,	Chapman
316.	L.	N. E. corner Water and Margaret streets,	Chapman
317.	L.	Margaret street, south side, opposite Nos. 42-44,	Chapman
318.	H.	N. W. corner Main and Margaret streets,	Chapman
319.	L.	S. W. corner Main and Margaret streets,	Chapman
320.	L.	S. W. corner Main and Fremont streets,	Chapman
321.	L.	Fremont street, south side, front of No. 41,	Chapman
322.	L.	N. E. corner Walnut and Fremont streets,	Chapman
323.	L.	Whitney avenue, north side, end of avenue,	Chapman
324.	H.	Water street, west side, near Loring,	Chapman
325.	H.	Loring street, north side, front of No. 34,	Chapman
326.	H.	N. W. corner Main and Loring streets,	Chapman
327.	L.	Lombard street, north side, opposite No. 25,	Chapman
328.	H.	S. W. corner Water and Walker streets,	Chapman
329.	H.	Walker street, south side near Walker's shop,	Chapman
330.	L.	Walker street, north side, midway, 6″ S. con.,	Chapman
331.	H.	Walker street, south side, near railroad,	Chapman
332.	H.	S. E. corner Gardner and Hanover streets,	Chapman
333.	L.	Gardner street, north side, front of No. 96,	Chapman
334.	H.	Gardner street, south side, opposite Gardner ave.,	Chapman
335.	L.	N. E. corner Water and Gardner streets,	Perkins
336.	L.	N. E. corner Hanover and Norwood streets,	Perkins
337.	L.	Norwood street, south side, midway,	Chapman
338.	L.	N. W. corner Main and Norwood streets,	Chapman
339.	L.	S. W. corner Main and Broad streets, 6″ S. con.,	Chapman
340.	L.	S. E. corner Hanover and Broad streets, 6″ S. con.,	Chapman
341.	H.	Hanover street, east side, near Broad,	Chapman
342.	L.	Elmwood street, north side, near Barney & Berry's shop,	Chapman
343.	H.	N. W. corner Hanover and York streets,	Chapman
344.	L.	York street, north side, front of schoolhouse,	Chapman
345.	L.	N. W. corner Main and York streets,	Perkins
346.	H.	Main street, east side, opposite No. 962,	Matthews
347.	H.	South street, east side, opposite No. 5,	Chapman
348.	H.	S. E. corner South and Long Hill streets,	Chapman
349.	H.	South street, east side, below Long Hill, 6″ S. con.,	Chapman
350.	H.	South street, east side, at south end bridge, 6″ S. con.,	Chapman
351.	H.	Long Hill street, east side, near brick yard,	Chapman

No.	High or Low.	Location.	Make.
352.	H.	Warner place, north side, midway, 6″ S. con.,	Chapman
353.	H.	Long Hill street, east side, north of Sumner ave.,	Chapman
354.	H.	N. E. corner Long Hill street and Sumner ave.,	Chapman
355.	H.	Long Hill street, east side, near Spruceland ave.,	Chapman
356.	H.	Spruceland avenue, south side, opposite No. 50,	Perkins
357.	H.	Long Hill street, N. E. corner Cherryvale avenue, 6″ S. con.,	Chapman
358.	H.	Pineywoods avenue, N. W. corner Washington boulevard, 6″ S. con.,	Chapman
359.	H.	Spruceland avenue, S. W. corner Magnolia terrace,	Chapman
360.	H.	Magnolia terrace, end of pipe,	Chapman
361.	H.	Firglade avenue, east side, north of Spruceland,	Chapman
362.	H.	Pineywoods avenue, N. E. corner Firglade, 6″ S. con.,	Chapman
363.	H.	Park avenue, west side, end of pipe,	Chapman
364.	H.	Hawthorn place, east side, south of No. 51,	Chapman
365.	H.	S. E. corner Sumner avenue and Hawthorn place,	Chapman
366.	H.	S. E. corner Sumner and Firglade avenues,	Chapman
367.	H.	Magnolia terrace, at Sumner avenue,	Chapman
368.	H.	N. W. corner Sumner and Fort Pleasant avenues,	Chapman
369.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″ S. con.,	Chapman
370.	H.	Maplewood terrace, north side, midway, S. con.,	Chapman
371.	H.	Maplewood terrace, N. W. corner Park avenue,	Chapman
372.	H.	S. E. corner Forest street and Park avenue,	Chapman
373.	H.	Park avenue, N. E. corner Sumner,	Chapman
374.	H.	Greenleaf street, N. E. corner Sumner avenue,	Chapman
375.	H.	Sumner avenue, south side, at Forest Park, 6″ S. con.,	Chapman
376.	H.	Churchill street, N. E. corner Sumner avenue,	Chapman
377.	H.	Churchill street, S. E. corner Garfield,	Chapman
378.	H.	Greenleaf street, S. E. corner Garfield,	Chapman
379.	H.	Fairfield street, north side, midway,	Chapman
380.	H.	Belmont avenue, S. E. corner Litchfield street,	Chapman
381.	H.	Litchfield street, N. E. corner Garfield,	Chapman
382.	H.	N. W. corner Belmont avenue and Oakland street,	Chapman
383.	H.	Oakland street, west side, opposite No. 46,	Chapman
384.	H.	Kenwood park, N. W. corner Belmont avenue, 6″,	Chapman

No.	High or Low.	Location.	Make.
385.	H.	Beaumont street, N. W. corner Belmont avenue, 6″ S. con.,	Chapman
386.	H.	Brace street, N. W. corner Belmont avenue, 6″ S. con.,	Chapman
387.	H.	Continental avenue, east side, end of pipe, 6″ S. con.,	Chapman
388.	H.	Cliftwood avenue, S. E. corner Sumner, 6″ S. con.,	Chapman
389.	H.	Lenox street, at end of same, 6″ S. con.,	Chapman
390.	H.	Sumner avenue, S. W. corner Belmont,	Chapman
391.	H.	Forest avenue, about 300 ft. south of Sumner, 6″ S. con.,	Chapman
392.	H.	Hollywood street, N. E. corner Forest, 6″ S. con.,	Chapman
393.	H.	Commonwealth avenue, east side, 350 ft. south of Walden street, 6″ S. con.,	Chapman
394.	H.	Commonwealth avenue, east side, 175 ft. south of Washington street, 6″ S. con.,	Chapman
395.	H.	Fairview street, N. E. corner Groveland avenue, 6″ S. con.,	Chapman
396.	H.	Groveland avenue, N. E. corner Forest, 6″ S. con.,	Chapman
397.	H.	Sorrento avenue, N. E. corner Sumner, 6″ S. con.,	Chapman
398.	H.	Sumner avenue, south side, near Converse street, 6″ S. con.,	Chapman
399.	H.	Pomona avenue, opposite Granada terrace, 6″ S. con.,	Chapman
400.	H.	Granada terrace, in grass plot at Sorrento avenue, east,	Chapman
401.	H.	Ventura avenue, S. E. corner Granada terrace, 6″ S. con.,	Chapman
402.	H.	Granada terrace, N. E. corner Dickinson street, 6″ S. con.,	Chapman
403.	H.	Berendo avenue, S. E. corner Alderman street, 6″ S. con.,	Chapman
404.	H.	Ventura avenue, S. E. corner Alderman street, 6″ S. con.,	Chapman
405.	H.	Dickinson street, west side, opposite Alderman street, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
406.	H.	Kenwood park, west side, midway, 6″	Chapman
407.	H.	Kenwood park, S. W. corner Dickinson street, 6″,	Chapman
408.	H.	Johnson street, at Dickinson, 6″	Chapman
409.	H.	Parker avenue, west side, end of pipe, 6″ S. con.	Chapman
410.	H.	Oakland street, N. W. corner Dickinson,	Chapman
411.	H.	Crystal avenue, S. W. corner Dickinson street, 6″ S. con.	Chapman
412.	H.	Hall street, S. W. corner Dickinson	Chapman
413.	H.	Hall street, west side, midway,	Chapman
414.	H.	N. E. corner Belmont avenue and Hall street,	Chapman
415.	H.	Forest street, east side, about midway,	Chapman
416.	H.	N. E. corner Belmont avenue and Keith street,	Chapman
417.	H.	Keith street, west side, front of No. 51,	Chapman
418.	H.	S. W. corner Keith and Dickinson streets,	Chapman
419.	H.	Euclid avenue, S. W. corner Dickinson street,	Chapman
420.	H.	Euclid avenue, west side, midway,	Chapman
421.	H.	Belmont avenue, N. W. corner Marengo,	Chapman
422.	H.	Marengo avenue, S. W. corner Dickinson street, 6″ S. con.,	Chapman
423.	H.	Marengo avenue, at LaVerne, 6″ S. con.	Chapman
424.	H.	Bellevue avenue, S. E. corner LaVerne	Perkins
425.	H.	Bellevue avenue, S. W. corner Dickinson street,	Chapman
426.	H.	Belmont avenue, east side, opposite No. 134,	Chapman
427.	H.	Woodside avenue, at end of pipe, 6″ S. con.	Chapman
428.	H.	Park avenue, N. E. corner Fort Pleasant,	Chapman
429.	H.	Chase avenue, N. E. corner Fort Pleasant, 6″ S. con.,	Chapman
430.	H.	Chase avenue, N. W. corner Riverview street, 6″ S. con.	Chapman
431.	H.	Edgeland avenue, north side, midway,	Chapman
432.	H.	Crescent terrace, in park at Fort Pleasant avenue, 6″ S. con.	Chapman
433.	H.	Leyfred terrace, N. E. corner Belmont avenue, 6″ S. con.	Chapman
434.	H.	Belmont avenue, west side, at Fort Pleasant,	Chapman
435.	H.	Mill street, south side, midway Locust and Main,	Matthews
436.	H.	Locust street, N. E. corner Mill, 6″ S. con.	Chapman
437.	H.	Mill street, north side, opposite Howard's waste mill,	Perkins

No.	High or Low.	Location.	Make.
438.	H.	Pine street, north side, at Mill,	Chapman
439.	H.	Warriner avenue, north side, end of pipe,	Chapman
440.	H.	Palmer avenue, north side, 300 feet east of Locust street, 6″ S. con.,	Chapman
441.	L.	Main street, east side, at Locust,	Matthews
442.	H.	Main street, N. E. corner Acushnet avenue, 6″,	Chapman
443.	L.	Acushnet avenue, north side, midway,	Chapman
444.	L.	Acushnet avenue, north side, end of pipe,	Chapman
445.	H.	Main street, N. E. corner Rutledge avenue, 6″,	Chapman
446.	L.	Rutledge avenue, north side, midway,	Perkins
447.	L.	Wendell avenue, 6″ S. con.,	Chapman
448.	H.	Main street, east side, opposite Broad, 6″,	Chapman
449.	H.	Main street, N. E. corner Marble, 6″,	Chapman
450.	L.	Marble street, N. E. corner Main, 6″,	Chapman
451.	L.	Marble street, north side, midway, 6″,	Chapman
452.	L.	Marble street, north side, end of pipe, 6″,	Chapman
453.	H.	Main street, east side, opposite Gardner, 6″,	Chapman
454.	L.	Main street, east side, opposite Gardner,	Perkins
455.	H.	Main street, east side, front of No. 739, 6″,	Chapman
456.	H.	Main street, east side, opposite Lombard, 6″,	Chapman
457.	H.	Main street, S. E. corner Adams, 6″,	Chapman
458.	L.	Adams street, south side, midway,	Chapman
459.	L.	Ashmun street, east side, opposite Adams,	Chapman
460.	L.	Central street, north side, opposite No. 63, 6″ S. con.,	Chapman
461.	H.	Central street, north side, midway Main and Morris, 6″ S. con.,	Chapman
462.	H.	N. E. corner Main and Central streets,	Chapman
463.	H.	N. E. corner Main and Morris streets,	Chapman
464.	L.	Morris street, north side, opposite No. 40,	Chapman
465.	L.	Morris street, east side, at angle,	Chapman
466.	L.	Winthrop street, N. W. corner Dale, 6″ S. con.,	Chapman
467.	L.	Winthrop street, north side, midway, 6″ S. con.,	Chapman
468.	H.	N. E. corner Main and Winthrop streets,	Chapman
469.	H.	N. E. corner Main and William streets,	Chapman
470.	H.	William street, south side, midway Main and Dale,	Chapman
471.	L.	N. W. corner William and Dale streets,	Chapman
472.	H.	N. E. corner Willow street and Hubbard avenue,	Chapman

No.	High or Low.	Location.	Make.
473.	H.	S. E. corner Main street and Hubbard avenue,	Chapman
474.	H.	N. E. corner Main and Union streets,	Chapman
475.	H.	N. E. corner Union and Willow streets,	Perkins
476.	L.	S. E. corner Union and Dale streets,	Chapman
477.	H.	S. W. corner Park and Willow streets,	Perkins
478.	H.	N. E. corner Main and Park streets,	Chapman
479.	H.	S. E. corner Main and Cross streets,	Chapman
480.	H.	N. E. corner Willow and Cross streets, 6″ S. con.,	Chapman
481.	H.	Cross street, south side, midway Maple and Willow,	Chapman
482.	H.	S. E. corner Main street and Crossett avenue,	Chapman
483.	H.	S. E. corner Main and Stockbridge streets,	Chapman
484.	L.	Stockbridge street, S. W. corner Willow, 6″ S. con.,	Chapman
485.	H.	N. E. corner Willow and Stockbridge streets, 6″ S. con.,	Chapman
486.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop,	Perkins
487.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop,	Perkins
488.	H.	S. E. corner State and Willow streets,	Perkins
489.	L.	State street, S. W. corner Willow, 6″ S. con.,	Chapman
490.	H.	N. E. corner State and Dwight streets,	Chapman
491.	L.	N. W. corner State and Dwight streets,	Chapman
492.	H.	N. W. corner State and Market streets,	Chapman
493.	H.	N. E. corner State and Main streets, 6″ S. con.,	Chapman
494.	H.	N. E. corner Main and Sanford streets, 6″ S. con.,	Chapman
495.	L.	S. W. corner Market and Sanford streets,	Chapman
496.	L.	Sanford street, north side, midway Market and Dwight,	Chapman
497.	H.	Sanford street, north side, near Dwight,	Perkins
498.	H.	Sanford street, N. E. corner Market, 6″ S. con.,	Chapman
499.	L.	S. W. corner Dwight and East Court streets,	Chapman
500.	H.	N. W. corner Dwight and East Court streets,	Perkins
501.	L.	Dwight street, S. W. corner New, 6″ S. con.,	Chapman
502.	H.	N. W. corner East Court and New streets,	Chapman
503.	H.	S. W. corner East Court and Market streets,	Chapman
504.	H.	S. E. corner Main and East Court streets,	Matthews
505.	H.	Main street, east side, front of No. 445, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
506.	H.	Main street, east side, front of No. 415, 6″ S. con.,	Chapman
507.	H.	N. E. corner Main street and Townsley avenue,	Matthews
508.	H.	Main street, east side, opposite Pynchon,	Matthews
509.	H.	N. W. corner Market street and Townsley avenue,	Chapman
510.	L.	S. W. corner Harrison avenue and Market street,	Chapman
511.	H.	S. E. corner Main street and Harrison avenue,	Chapman
512.	H.	Harrison avenue, N. E. corner Main street, 6″.	Perkins
513.	H.	Main street, east side, opposite Vernon, 6″,	Matthews
514.	H.	Harrison avenue, north side, opposite Market street, 6″.	Chapman
515.	H.	Harrison avenue, north side, front of No. 44, 6″,	Perkins
516.	H.	Harrison avenue, south side, front of No. 37, 6″,	Perkins
517.	H.	Harrison avenue, N. W. corner Dwight street, 6″,	Chapman
518.	L.	S. W. corner Harrison avenue and Dwight street,	Chapman
519.	H.	N. E. corner Harrison avenue and Dwight street,	Perkins
520.	H.	Dwight street, front of No. 109, 6″ S. con.	Chapman
521.	L.	S. W. corner Dwight and Hillman streets,	Chapman
522.	H.	N. W. corner Dwight and Hillman streets,	Chapman
523.	H.	Hillman street, N. W. corner Barnes, 6″ S. con.,	Chapman
524.	H.	Hillman street, south side, midway,	Chapman
525.	H.	N. E. corner Main and Hillman streets, 6″ S. con.,	Chapman
526.	H.	N. E. corner Main and Bridge streets,	Chapman
527.	L.	Bridge street, S. E. corner Barnes, 6″ S. con.,	Chapman
528.	L.	Bridge street, north side, at Stearns park,	Chapman
529.	L.	Dwight street, S. W. corner Bridge, 6″ S. con.,	Chapman
530.	H.	N. E. corner Bridge and Dwight streets, 6″ S. con.,	Chapman
531.	L.	S. E. corner Worthington and Dwight streets, 6″ S. con.,	Chapman
532.	H.	N. W. corner Worthington and Dwight streets,	Chapman
533.	H.	S. E. corner Worthington street and Stearns avenue,	Chapman
534.	L.	Worthington street, south side, front of No. 99,	Chapman
535.	H.	N. E. corner Main and Worthington streets,	Chapman
536.	H.	Main street, east side, opposite Fort,	Chapman
537.	H.	N. E. corner Main and Taylor streets,	Matthews
538.	H.	Taylor street, south side, front of No. 23.	Matthews
539.	H.	Taylor street, north side, opposite No. 51.	Matthews
540.	H.	N. E. corner Taylor and Dwight streets.	Perkins

No.	High or Low.	Location.	Make.
541.	H.	Taylor street, north side, front of No. 96, 6″ S. con.,	Chapman
542.	H.	S. E. corner Lyman and Dwight streets,	Perkins
543.	L.	Lyman street, north side, opposite Dwight,	Chapman
544.	H.	Lyman street, south side, front of No. 53,	Perkins
545.	L.	Lyman street, north side, opposite Nos. 39-43,	Chapman
546.	H.	Lyman street, north side, opposite Nos. 27-31,	Perkins
547.	H.	N. E. corner Main and Lyman streets,	Matthews
548.	L.	Lyman street, S. E. corner Main, 6″ S. con.,	Chapman
549.	H.	Main street, east side, opposite Hampden, 6″ S. con.,	Chapman
550.	H.	Main street, east side, just south of arch,	Chapman
551.	H.	N. E. corner Chestnut and Lyman streets,	Chapman
552.	H.	Chestnut street, S. W. corner Lyman, 6″,	Chapman
553.	H.	Lyman street, north side, midway Spring and Chestnut,	Chapman
554.	L.	S. E. corner Chestnut and Lyman streets,	Perkins
555.	H.	N. E. corner Chestnut and Taylor streets,	Chapman
556.	L.	Chestnut street, east side, opposite Taylor, 6″ S. con.,	Chapman
557.	H.	N. W. corner Chestnut and Taylor streets,	Chapman
558.	H.	N. E. corner Chestnut and Worthington streets,	Chapman
559.	L.	S. W. corner Chestnut and Worthington streets,	Chapman
560.	H.	Chestnut street, S. W. corner Worthington, 6″,	Chapman
561.	L.	Chestnut street, east side, near Bridge,	Chapman
562.	H.	Chestnut street, N. W. corner Bridge, 6″,	Chapman
563.	L.	S. E. corner Chestnut and Pearl streets,	Chapman
564.	H.	Chestnut street, west side, opposite Pearl, 6″,	Chapman
565.	H.	Chestnut street, west side, opposite Mattoon, 6″,	Chapman
566.	H.	Chestnut street, N. W. corner Harrison avenue, 6″,	Chapman
567.	H.	Chestnut street, west side, opposite Edwards, 6″,	Chapman
568.	L.	Edwards street, north side, opposite No. 37,	Perkins
569.	L.	Chestnut street, west side, opposite No. 55,	Chapman
570.	H.	Chestnut street, west side, opposite No. 49, 6″,	Chapman
571.	H.	Chestnut street, west side, opposite Christ church,	Perkins
572.	H.	N. E. corner State and Chestnut streets, 6″ S. con.,	Chapman
573.	H.	State street, north side, near City Library,	Perkins

No.	High or Low.	Location.	Make.
574.	H.	State street, north side, at Cathedral, 6″ S. con.,	Chapman
575.	H.	N. W. corner State and Elliott streets,	Matthews
576.	L.	Elliott street, west side, front of convent,	Chapman
577.	H.	N. W. corner State and Spring streets,	Matthews
578.	H.	N. E. corner Spring and Frost streets,	Chapman
579.	L.	S. W. corner Spring and Salem streets,	Ayers
580.	H.	Spring street, east side, opposite Salem, 6″,	Perkins
581.	L.	Elliott street, S. E. corner Salem, 6″ S. con.,	Chapman
582.	H.	Salem street, north side, opposite Elliott,	Chapman
583.	L.	Pearl street, north side, opposite Salem, 6″ S. con.,	Chapman
584.	H.	S. E. corner Pearl and Spring streets,	Chapman
585.	H.	Pearl street, north side, at Byers,	Chapman
586.	H.	Pearl street, north side, at angle,	Chapman
587.	H.	Pearl street, north side, front of No. 242,	Chapman
588.	H.	N. W. corner Pearl and Federal streets,	Chapman
589.	H.	N. E. corner Worthington and Federal streets,	Perkins
590.	H.	Worthington street, north side, opposite No. 485,	Chapman
591.	H.	N. E. corner Worthington street and Kibbe avenue,	Chapman
592.	H.	Worthington street, north side, opposite Sackett's avenue,	Chapman
593.	L.	S. W. corner Worthington street and Sackett's avenue,	Perkins
594.	H.	Worthington street, north side, opposite No. 377,	Chapman
595.	H.	N. E. corner Worthington and Autumn streets,	Chapman
596.	H.	Worthington street, north side, opposite school-house,	Chapman
597.	L.	S. W. corner Worthington and Spring streets,	Ayers
598.	L.	Worthington street, S. W. corner Spring, 6″ S. con.,	Chapman
599.	H.	N. E. corner Worthington and Spring streets,	Chapman
600.	H.	N. E. corner Worthington and Alert streets,	Chapman
601.	L.	Worthington street, south side, opposite Alert, 6″ S. con.,	Chapman
602.	H.	N. E. corner Spring and Summer streets,	Chapman
603.	L.	Lyman street, south side, front of Gilbert & Barker's shop,	Chapman
604.	H.	Lyman street, north side, at Spring,	Chapman
605.	L.	Summer street, north side, opposite Autumn,	Perkins

No.	High or Low.	Location.	Make.
606.	L.	Summer street, south side, front of No. 103,	Perkins
607.	L.	Summer street, south side, front of No. 147,	Perkins
608.	H.	Summer street, S. E. corner Kibbe avenue, 6″,	Chapman
609.	H.	Summer street, S. W. corner Federal, 6″,	Chapman
610.	H.	Armory street, N. W. corner Warwick avenue, 6″ S. con.,	Chapman
611.	H.	Armory street, east side, at paint shops,	Chapman
612.	H.	Armory street court, S. E. corner Armory street avenue, 6″ S. con.,	Chapman
613.	H.	Worthington street, N. W. corner Armory, 6″ S. con.,	Chapman
614.	H.	N. E. corner Armory and Grant streets,	Chapman
615.	H.	Federal street, west side, at Armory gate,	Matthews
616.	H.	N. E. corner Federal and Lincoln streets,	Perkins
617.	H.	Lincoln street, N. W. corner Magazine, S. con.,	Chapman
618.	H.	N. W. corner Magazine and Grant streets,	Chapman
619.	H.	S. E. corner Armory and Magazine streets,	Chapman
620.	H.	Worthington street, south side, midway Armory and Bowdoin, 6″ S. con.,	Chapman
621.	H.	S. E. corner Worthington and Bowdoin streets,	Perkins
622.	H.	Bowdoin street, east side, midway Worthington street and St. James avenue,	Chapman
623.	H.	S. E. corner Bowdoin street and Ingersoll grove,	Chapman
624.	H.	Ingersoll grove, east side, at angle,	Chapman
625.	H.	S. W. corner Florida and Worthington streets,	Matthews
626.	H.	S. E. corner Worthington and Thompson streets,	Chapman
627.	H.	Thompson street, east side, midway St. James avenue and Worthington street,	Chapman
628.	H.	Dartmouth terrace, east side, front of No. 45,	Chapman
629.	H.	S. W. corner Harvard street and St. James avenue,	Chapman
630.	H.	S. E. corner Harvard and Cornell streets,	Chapman
631.	H.	S. E. corner Cornell and Wellesley streets,	Chapman
632.	H.	S. E. corner Cornell and Princeton streets,	Chapman
633.	H.	S. W. corner St. James avenue and Princeton street,	Chapman
634.	H.	St. James avenue, west side, opposite Dorchester street,	Chapman
635.	H.	N. E. corner Dorchester and Monmouth streets,	Chapman

No.	High or Low.	Location.	Make.
636.	H.	N. W. corner Lafayette and Amherst streets,	Chapman
637.	H.	N. W. corner Monmouth and Yale streets,	Chapman
638.	H.	Monmouth street, at Berkeley,	Chapman
639.	H.	N. W. corner Princeton and Yale streets,	Chapman
640.	H.	Princeton street, south side, between Vassar and Amherst,	Chapman
641.	H.	Harvard street, south side, midway St. James avenue and Yale street,	Chapman
642.	H.	N. W. corner Harvard and Yale streets,	Chapman
643.	H.	N. E. corner Dartmouth and Yale streets,	Chapman
644.	H.	Dartmouth street, north side, midway,	Chapman
645.	H.	S. E. corner Dartmouth street and St. James avenue,	Chapman
646.	H.	S. E. corner Clarendon street and St. James avenue,	Chapman
647.	H.	Clarendon street, north side, between Bay street and St. James avenue,	Chapman
648.	H.	S. W. corner Buckingham and Clarendon streets,	Chapman
649.	H.	N. E. corner Buckingham street and Buckingham place,	Chapman
650.	H.	S. E. corner Buckingham and Bay streets,	Chapman
651.	H.	S. E. corner Bay and Westminster streets,	Chapman
652.	H.	Westminster street, east side, midway St. James avenue and Bay street,	Chapman
653.	H.	S. E. corner Westminster street and St. James avenue,	Chapman
654.	H.	S. E. corner Thompson street and St. James avenue,	Chapman
655.	H.	S. E. corner Thompson and Bay streets,	Perkins
656.	H.	S. E. corner Bay and Pleasant streets,	Chapman
657.	H.	S. W. corner Florida street and St. James avenue,	Matthews
658.	H.	N. E. corner St. James avenue and Bowdoin street,	Chapman
659.	H.	N. E. corner State street and St. James avenue,	Perkins
660.	H.	N. E. corner State and Pleasant streets,	Perkins
661.	H.	N. E. corner State and Westminster streets,	Perkins
662.	H.	Buckingham street, east side, front of No. 69,	Chapman
663.	H.	N. E. corner Sherman and State streets,	Perkins
664.	H.	S. E. corner Sherman and McKnight streets,	Chapman

No.	High or Low.	Location.	Make.
665.	H.	S. E. corner Sherman and Bay streets,	Chapman
666.	H.	S. E. corner Catharine and Bay streets,	Chapman
667.	H.	N. E. corner Catharine and McKnight streets,	Chapman
668.	H.	Catharine street, east side, front of No. 71,	Chapman
669.	H.	Catharine street, east side, front of No. 37,	Chapman
670.	H.	State street, south side, at Winchester park engine house,	Chapman
671.	H.	State street, north side, at N. E. R. R., 6″ S. con.,	Chapman
672.	H.	Chapin street, east side, midway,	Chapman
673.	H.	Marion street, west side, south end,	Chapman
674.	H.	N. E. corner Bowles and McKnight streets,	Chapman
675.	H.	Bowles street, east side, midway Bay and McKnight,	Chapman
676.	H.	S. E. corner Bowles and Bay streets,	Chapman
677.	H.	Welcome place, east side, end of pipe,	Chapman
678.	H.	Marion street, east side, midway,	Chapman
679.	H.	N. W. corner McKnight street and Girard avenue,	Chapman
680.	H.	S. E. corner Bay street and Girard avenue,	Chapman
681.	H.	Clifford street, south side, midway,	Chapman
682.	H.	Bay street, south side, front of No. 401,	Chapman
683.	H.	Dawes street, west side, midway,	Chapman
684.	H.	S. E. corner Bay street and Oak Grove avenue,	Chapman
685.	H.	Cambridge street, east side, front of No. 45,	Chapman
686.	H.	Cambridge street, east side, opposite No. 84,	Chapman
687.	H.	Andrew street, east side, midway,	Chapman
688.	H.	Hayden avenue, east side, midway,	Perkins
689.	H.	N. E. corner State and Andrew streets,	Perkins
690.	H.	Montrose street, east side, midway, 6″,	Chapman
691.	H.	Mapledell street, N. E. corner State, 6″ S. con.,	Chapman
692.	H.	Mapledell street, S. E. corner Burr, S. con.,	Chapman
693.	H.	Oak Grove avenue, N. E. corner State street, 6″ S. con.,	Chapman
694.	H.	College avenue, S. E. corner Shattuck,	Chapman
695.	H.	College avenue, east side, midway State street and Shattuck avenue,	Chapman
696.	H.	State street, north side, N. E. corner College avenue,	Chapman
697.	H.	Maynard avenue, west side, near State street,	Chapman
698.	H.	Willard avenue, west side, front of No. 42,	Chapman

No.	High or Low.	Location.	Make.
699.	H.	State street, north side, midway Willard avenue and Cortland street,	Chapman
700.	H.	Cortland street, west side, midway,	Chapman
701.	H.	Dresden avenue, east side, midway, 6″ S. con.,	Chapman
702.	H.	State street, north side, opposite Colonial avenue,	Chapman
703.	H.	S. E. corner State and Benton streets,	Chapman
704.	H.	State street, north side, front of Alden Warner's,	Chapman
705.	H.	Boston road, north side, near Jasper street, 6″ S. con.,	Chapman
706.	H.	Coleman street, east side, 388 feet south of Boston road, 6″ S. con.,	Chapman
707.	H.	Denver street, east side, end of pipe,	Chapman
708.	H.	Benton avenue, N. E. corner Benton street, 6″ S. con.,	Chapman
709.	H.	Benton street, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
710.	H.	Wilbraham road, front of House of Good Shepherd, 6″ S. con.,	Chapman
711.	H.	Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
712.	H.	Carlisle avenue, east side, end of pipe, 6″ S. con.,	Chapman
713.	H.	Norfolk street, S. E. corner Wilbraham road.	Chapman
714.	H.	Norfolk street, east side, end of pipe,	Chapman
715.	H.	Suffolk street, east side, end of pipe,	Chapman
716.	H.	Colonial avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
717.	H.	Middlesex street, corner Wilbraham road,	Chapman
718.	H.	Wellington street, east side, end of pipe, 6″ S. con.,	Chapman
719.	H.	Reed street, N. E. corner Wilbraham road,	Chapman
720.	H.	N. E. corner Wilbraham road and College street,	Chapman
721.	H.	Westford avenue, S. E. corner Wilbraham road, 6″ S. con.,	Chapman
722.	H.	Northampton avenue, S. E. corner Wilbraham road,	Chapman
723.	H.	Northampton avenue, east side, at No. 49,	Chapman
724.	H.	Northampton avenue, east side, opposite No. 108,	Chapman
725.	H.	Westford avenue, east side, opposite Gunn square, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
726.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.,	Chapman
727.	H.	King street, N. W. corner Westford avenue, 6″ S. con.,	Chapman
728.	H.	Wilbraham avenue, N. E. corner King street, 6″ S. con.,	Chapman
729.	H.	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.,	Chapman
730.	H.	Wilbraham avenue, east side, opposite Holyoke Paper Co.'s shop,	Perkins
731.	H.	Wilbraham avenue, east side, north of Beverly street,	Chapman
732.	H.	Wilbraham avenue, east side, front of No. 25,	Chapman
733.	H.	S. E. corner Waltham avenue and Wilbraham road,	Chapman
734.	H.	S. W. corner Colton street and Wilbraham road,	Chapman
735.	H.	S. W. corner Wilbraham road and Eastern avenue,	Chapman
736.	H.	S. E. corner State and Winchester streets,	Chapman
737.	H.	S. E. corner State and Hancock streets,	Perkins
738.	H.	N. E. corner Monroe and Hancock streets,	Chapman
739.	H.	Monroe street, north side, front of No. 72,	Perkins
740.	H.	N. W. corner Monroe street and Eastern avenue,	Chapman
741.	H.	N. W. corner Monroe and Colton streets,	Chapman
742.	H.	S. W. corner Colton and Union streets,	Chapman
743.	H.	S. W. corner Union street and Eastern avenue,	Chapman
744.	H.	Union street, south side, front of No. 709,	Chapman
745.	H.	Union street, south side, opposite No. 660,	Chapman
746.	H.	S. E. corner Union and Hancock streets,	Matthews
747.	H.	N. W. corner Hancock and Quincy streets,	Chapman
748.	H.	Quincy street, north side, opposite No. 181,	Chapman
749.	H.	Quincy street, north side, front of No. 230,	Chapman
750.	H.	N. W. corner Quincy street and Eastern avenue,	Chapman
751.	H.	N. W. corner Quincy and Colton streets,	Chapman
752.	H.	N. W. corner Tyler and Colton streets,	Chapman
753.	H.	S. W. corner Tyler street and Eastern avenue,	Chapman
754.	H.	Tyler street, north side, front of No. 220,	Chapman
755.	H.	Tyler street, north side, opposite No. 183,	Chapman
756.	H.	N. W. corner Hancock and Tyler streets,	Matthews

No.	High or Low.	Location.	Make.
757.	H.	N. W. corner Hancock street and Pendleton avenue,	Perkins
758.	H.	Pendleton avenue, north side, opposite No. 163,	Chapman
759.	H.	Pendleton avenue, north side, opposite No. 209,	Chapman
760.	H.	N. W. corner Pendleton and Eastern avenues,	Chapman
761.	H.	Beacon street, south side, at Colton,	Chapman
762.	H.	King street, N. W. corner Logan,	Chapman
763.	H.	N. W. corner Eastern avenue and King street,	Chapman
764.	H.	King street, north side, front of No. 184,	Chapman
765.	H.	King street, north side, opposite Nelson avenue,	Chapman
767.	H.	N. W. corner Lebanon street and Nelson avenue,	Chapman
768.	H.	N. W. corner Lebanon street and Merrick avenue,	Chapman
769.	H.	Eastern avenue, east side, opposite Lebanon street,	Chapman
766.	H.	N. E. corner King and Hancock streets,	Matthews
770.	H.	N. W. corner Granville and Logan streets,	Chapman
771.	H.	N. W. corner Olive and Logan streets,	Chapman
772.	H.	N. W. corner Ladd and Logan streets,	Chapman
773.	H.	Collins street, near N. W. corner Logan,	Chapman
774.	H.	N. W. corner Greene street and Eastern avenue,	Chapman
775.	H.	Greene street, north side, front of No. 88,	Chapman
776.	H.	N. W. corner Greene street and Nelson avenue,	Chapman
777.	H.	N. E. corner Greene and Hancock streets,	Matthews
778.	H.	Alden street, north side, front of No. 24,	Chapman
779.	H.	Alden street, north side, front of No. 86,	Chapman
780.	H.	N. W. corner Alden street and Eastern avenue,	Chapman
781.	H.	Alden street, N. W. corner Logan,	Perkins
782.	H.	Alden street, north side, at Hickory, 6″ S. con.,	Chapman
783.	H.	Hickory street, N. E. corner Woodbine avenue,	Chapman
784.	H.	Hickory street, north side, opposite Smith & Adams' slaughter house,	Chapman
785.	H.	Manhattan street, N .W. corner Eastern avenue,	Chapman
786.	H.	Manhattan street, north side, midway,	Chapman
787.	H.	N. E. corner Manhattan and Walnut streets,	Chapman
788.	H.	Walnut street, east side, opposite No. 396,	Matthews
789.	H.	Eastern avenue, S. W. corner Marshall place, 6″ S. con.,	Chapman
790.	H.	Melrose street, N. W. corner Eastern avenue, 5″ S. con.,	Chapman
791.	H.	Melrose street, north side, midway, 5″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
792.	H.	Hickory street, north side, at No. 130, 6″ S. con.,	Chapman
793.	H.	Hickory street, north side, at No. 110, 6″ S. con.,	Chapman
794.	H.	N. E. corner Hickory and Walnut streets,	Matthews
795.	H.	Allen street, north side, at White,	Chapman
796.	H.	Allen street, north side, near No. 121,	Chapman
797.	H.	Hunt terrace, end of 4″ pipe,	Chapman
798.	H.	Randall avenue, west side, end of pipe,	Chapman
799.	H.	Allen street, north side, opposite No. 228,	Chapman
800.	H.	Allen street, north side, west of N. E. R. R.,	Chapman
801.	H.	Allen street, north side, just east of N. E. R. R.,	Perkins
802.	H.	Allen street, north side, midway N. E. R. R. and Plumtree road,	Perkins
803.	H.	Allen street, N. W. corner Plumtree road,	Chapman
804.	H.	White street, west side, south of Dawson avenue,	Chapman
805.	H.	Johnson street, north side, near Pasadena avenue,	Perkins
806.	H.	Bloomfield street, N. W. corner Pasadena avenue, 6″ S. con.,	Chapman
807.	H.	White street, west side, front of No. 74,	Chapman
808.	H.	White street, west side, opposite church,	Chapman
809.	H.	Orange street, east of White, end of pipe, 6″ S. con.,	Chapman
810.	H.	Orange street, south side, S. W. corner Ranney,	Chapman
811.	H.	Orange street, south side, between Revere and Malden, 6″ S. con.,	Chapman
812.	H.	Revere street, N. E. corner Grand avenue, 6″ S. con.,	Chapman
813.	H.	Malden street, N. E. corner Grand avenue, 6″ S. con.,	Chapman
814.	H.	Highland street, N. W. corner Orange,	Chapman
815.	H.	Noel avenue, N. W. corner Shamrock,	Chapman
816.	H.	Noel avenue, east side, end of pipe,	Chapman
817.	H.	Highland street, N. W. corner Shamrock avenue,	Chapman
818.	H.	S. W. corner Highland and Allen streets,	Chapman
819.	H.	S. W. corner Mill and Allen streets,	Chapman
820.	H.	N. E. corner Mill and Central streets,	Matthews
821.	H.	S. E. corner Hancock and Central streets,	Matthews
822.	H.	Hancock street, west side, south of Central, at end,	Chapman
823.	H.	Mill street, south side, opposite Maple,	Chapman

No.	High or Low.	Location.	Make.
824.	H.	Cherry street, north side, just west of No. 92,	Chapman
825.	H.	Cherry street, north side, opposite No. 51,	Chapman
826.	H.	N. W. corner Cherry and Central streets,	Chapman
827.	H.	N. E. corner Spruce and Central streets, 6″ S. con.,	Chapman
828.	H.	Spruce street, east side, front of No. 34,	Perkins
829.	H.	Hancock avenue, N. E. corner Spruce street, 6″ S. con.,	Chapman
830.	H.	Hancock avenue, north side, midway, S. con.,	Chapman
831.	H.	N. W. corner Hancock street and Hancock avenue,	Chapman
832.	H.	N. W. corner Hancock and Hawthorn streets,	Chapman
833.	H.	Hawthorn street, north side, midway,	Chapman
834.	H.	S. W. corner Hancock and Florence streets,	Matthews
835.	H.	S. W. corner Florence and Spruce streets,	Matthews
836.	H.	Beech street, east side, midway,	Chapman
837.	H.	Central street avenue, S. W. corner Central street, 6″ S. con.,	Chapman
838.	H.	Foster court, west roadway,	Chapman
839.	H.	Foster court, east roadway,	Chapman
840.	H.	Central street, south side, front of No. 319,	Matthews
841.	H.	N. E. corner Pine and Central streets,	Perkins
842.	H.	N. E. corner Pine and Cedar streets,	Matthews
843.	H.	Ashley street, north side, opposite No. 49,	Chapman
844.	H.	Ashley street, north side, front of No. 92,	Chapman
845.	H.	N. W. corner Ashley and Walnut streets,	Chapman
846.	H.	Belgrade place, N. W. corner Walnut street,	Chapman
847.	H.	N. W. corner Cedar and Walnut streets,	Perkins
848.	H.	N. W. corner Lebanon and Hancock streets,	Matthews
849.	H.	Queen street, north side, opposite No. 43,	Chapman
850.	H.	N. W. corner Walnut and James streets,	Matthews
851.	H.	James street, west side, midway,	Chapman
852.	H.	King street, north side, midway Hancock and Walnut,	Chapman
853.	H.	S. E. corner Pendleton avenue and Walnut street,	Perkins
854.	H.	N. E. corner Pendleton avenue and Orleans street,	Chapman
855.	H.	N. E. corner Tyler and Orleans streets,	Perkins
856.	H.	Tyler street, north side, front of Blake Mfg. Co.'s shop,	Perkins
857.	H.	N. E. corner Quincy and Stebbins streets,	Chapman

No.	High or Low.	Location.	Make.
858.	H.	N. W. corner Quincy and Orleans streets,	Chapman
859.	H.	N. E. corner Quincy and Oak streets,	Perkins
860.	H.	S. W. corner Oak street and Charter avenue,	Chapman
861.	H.	N. E. corner Union and Orleans streets,	Perkins
862.	H.	N. W. corner Union and Stebbins streets,	Perkins
863.	H.	Terrence street, east side, midway,	Matthews
864.	H.	S. E. corner State and Orleans streets,	Matthews
865.	H.	Lillian street, north side, opposite No. 17,	Chapman
866.	H.	State street, north side, midway Benton park,	Perkins
867.	H.	S. E. corner State and Walnut streets, 6″ S. con.,	Chapman
868.	H.	N. E. corner Walnut street and Charter avenue,	Perkins
869.	H.	State street, north side, opposite Woodworth avenue, 6″ S. con.,	Chapman
870.	H.	State street, north side, near Olivet church,	Matthews
871.	H.	S. W. corner High street and Ingraham avenue,	Perkins
872.	H.	Union street, north side, opposite Mulberry,	Perkins
873.	H.	S. W. corner Walnut and Union streets,	Perkins
874.	H.	Dymon street, north side, midway,	Chapman
875.	H.	Walnut street, east side, at Oak,	Perkins
876.	H.	Pine street, east side, opposite No. 55,	Chapman
877.	H.	Pine street, east side, opposite No. 109,	Chapman
878.	H.	Madison avenue, east side, north end,	Chapman
879.	H.	Central street, at Sterns terrace, 6″,	Chapman
880.	H.	S. E. corner Central and Cedar streets,	Matthews
881.	H.	Pine street, north side, opposite No. 239,	Perkins
882.	H.	N. W. corner Maple and Pine streets, 6″,	Perkins
883.	H.	Maple avenue, 350 feet east of Maple street, 6″,	Chapman
884.	H.	Maple street, east side, front of Mrs. S. J. Gordon's,	Matthews
885.	H.	Central street, north side, east of Maple,	Matthews
886.	H.	N. E. corner Maple street and Avon place,	Chapman
887.	H.	Avon place, north side, midway,	Chapman
888.	L.	Maple street, west side, front of No. 140, 6″ S. con.,	Chapman
889.	H.	S. E. corner Maple and Mulberry streets,	Chapman
890.	H.	N. E. corner School and Mulberry streets,	Perkins
891.	H.	Ridgewood place, N. W. corner Mulberry street,	Chapman
892.	H.	Ridgewood place, S. W. corner Union street,	Chapman
893.	H.	N. E. corner Union and School streets,	Perkins
894.	H.	N. E. corner Union and Maple streets,	Chapman

No.	High or Low.	Location.	Make.
895.	L.	Maple street, front of No. 104, 6″ S. con.,	Chapman
896.	L.	Maple street, S. W. corner Park, 6″ S. con.,	Chapman
897.	H.	Maple street, west side, opposite High,	Chapman
898.	H.	High street, south side, opposite No. 36, 6″ S. con.,	Chapman
899.	H.	S. W. corner Maple and Stockbridge streets,	Perkins
900.	H.	S. E. corner Maple and Temple streets,	Chapman
901.	L.	S. E. corner Maple and Temple streets, 6″ S. con.,	Chapman
902.	H.	Temple street, south side, front of No. 46,	Chapman
903.	H.	S. W. corner School and Temple streets,	Chapman
904.	H.	N. E. corner High and School streets,	Perkins
905.	H.	Myrtle street, east side, midway,	Perkins
906.	H.	State street, south side, front of No. 345,	Perkins
907.	L.	State street, south side, at High school, 6″ S. con.,	Chapman
908.	L.	State street, south side, at Unity church, 6″ S. con.,	Chapman
909.	H.	Five Mile pond, at pumping station,	Chapman

INDIAN ORCHARD.

No.	High or Low.	Location.	Make.
1.	H.	N. E. corner Berkshire and Chestnut streets,	Perkins
2.	H.	Hampden street, S. E. corner Chestnut,	Chapman
3.	H.	S. E. corner Hampden and Myrtle streets,	Perkins
4.	H.	S. W. corner Hampden and Oak streets,	Chapman
5.	H.	S. W. corner Worcester and Oak streets,	Chapman
6.	H.	Worcester street, at engine house, 6″,	Chapman
7.	H.	S. W. corner Worcester and Myrtle streets,	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets,	Chapman
9.	H.	Main street, north side, west end of park,	Perkins
10.	H.	N. W. corner Main and Myrtle streets,	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6″,	Chapman
12.	H.	N. E. corner Main and Oak streets,	Chapman
13.	H.	S. E. corner Water and Oak streets,	Chapman
14.	H.	Center street, north side, 320 ft. east of Oak,	Chapman
15.	H.	Center street, north side, 320 ft. west of Cedar,	Chapman
16.	H.	S. W. corner Main and Pine streets,	Perkins
17.	H.	N. W. corner Worcester and Pine streets,	Chapman
18.	H.	Worcester street, north side, 600 ft. east of Pine, 6″,	Chapman

No.	High or Low.	Location.	Make.
19.	H.	Main street, south side, at French church, 6″,	Chapman
20.	H.	S. W. corner Water and Cedar streets,	Chapman
21.	H.	N. W. corner Main and Cedar streets,	Perkins
22.	H.	Main street, midway Cedar and Quebec,	Chapman
23.	H.	Main street, north side, N. W. corner Quebec,	Chapman
24.	H.	Milton street, S. E. corner Main, 6″,	Chapman
25.	H.	Milton street, east side, end of pipe, 6″,	Chapman
26.	H.	Beaudry street, east side, end of pipe, 6″,	Chapman
27.	H.	Main street, north side, east of Beaudry, 6″,	Chapman
28.	H.	Main street, near Wilbraham line,	Chapman
29.	H.	Parker street, S. W. corner Main,	Chapman
30.	H.	Parker street, west side, 1,200 ft. south of Main,	Chapman
31.	H.	Parker street, near old schoolhouse, 6″,	Chapman
32.	H.	Parker street, 400 ft. north of Oak, 6″,	Chapman
33.	H.	Parker street, south of railroad,	Chapman
34.	H.	Oak street, near railroad station, 6″,	Chapman
35.	H.	Oak street, east side, opposite John Ferris's,	Chapman
36.	H.	Oak street, east side, opposite No. 194,	Chapman
37.	H.	Oak street, west side, south of Essex,	Chapman
38.	H.	Oak street, S. W. corner Essex,	Chapman
39.	H.	Pasco street, S. E. corner Essex, 6″,	Chapman
40.	H.	Pasco street, east side, end of pipe,	Chapman
41.	H.	Pine street, at Chapman Valve works,	Chapman
42.	H.	N. W. corner Hampshire and Pine streets,	Chapman
43.	H.	N. E. corner Hampshire and Oak streets,	Chapman
44.	H.	Berkshire street, north side, west of Oak,	Chapman
45.	H.	N. W. corner Hampshire and Myrtle streets,	Chapman
46.	H.	N. E. corner Berkshire and Myrtle streets,	Perkins

FIRE RESERVOIRS.

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1
Bridge street, at Water,	1
Central street, opposite Beech,	1
Elm street, at First church,	1
Ferry street, at Main,	1

Hampden street, at Main,	1	
Harrison avenue, at Main street,	1	
Howard street, at Main,	1	
Lyman street, at Dwight,	1	
Main street, at Court square,	1	
Main street, at Franklin,	1	
Main street, near Patton,	1	
Main street, at State,	1	
Maple street, at Central,	1	
Pine street, at Central,	1	
Pynchon street, near Water,	1	
State street, near Elliott,	1	
Walnut street, at Hancock,	1	
Water street, opposite Walker,	1	
Total,		19

STREET WATERING HYDRANTS

CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

No.	Location.	Service.
1.	Water street, S. E. corner of Worthington,	Low
2.	Cypress street, S. W. corner of Main,	High
3.	Main street, S. W. corner of Tenth,	High
4.	Fulton street, N. E. corner of Auburn,	Low
5.	North Main street, near Carew,	High
6.	Plainfield street, N. W. corner of John,	Low
7.	Plainfield street, midway Lowell and Washburn,	Low
8.	North Main street, S. W. corner of Arch,	High
9.	North Main street, opposite Douglas,	High
10.	North Main street, opposite Grace,	Low
11.	Springfield street, S. E. corner of Chestnut,	High
12.	Alexander street, S. E. corner of North,	Low
13.	Chestnut street, N. E. corner of Montmorenci,	Low

No.	Location.	Service.
14.	North street, opposite Osgood,	Low
15.	Chestnut street, opposite Patton,	Low
16.	Carew street, east of Arbor,	High
17.	Linden street, S. W. corner of Cass,	Low
18.	Chestnut street, east side, south of Franklin,	Low
19.	Liberty street, opposite Webster,	High
20.	Armory street, east side, south of Liberty,	High
21.	Magazine street, west side, south of Armory,	High
22.	Armory street, east side, north of Grant,	High
23.	Worthington street, N. E. corner of Kibbe avenue,	High
24.	Worthington street, at No. 353,	High
25.	Spring street, near S. E. corner of Worthington,	High
26.	Dwight street, between Taylor and Lyman,	High
27.	Dwight street, S. W. corner of Hillman,	High
28.	Sanford street, S. W. corner of Dwight,	Low
29.	Chestnut street, opposite Edwards,	High
30.	State street, N. E. corner of Byers,	High
31.	Byers street, S. E. corner of Pearl,	High
32.	State street, N. W. corner of Federal,	High
33.	St. James avenue, opposite Bay street,	High
34.	Worthington street, S. W. corner of Florida,	High
35.	Worthington street, at Thompson park,	High
36.	St. James avenue, east side, north of Princeton street,	High
37.	Amherst street, N. E. corner of Princeton,	High
38.	Bay street, N. W. corner of Buckingham place,	High
39.	Bay street, S. W. corner of Marion,	High
40.	Cambridge street, S. E. corner of Bay,	High
41.	Andrew street, opposite Dawes,	High
42.	State street, N. E. corner of Mapledell,	High
43.	State street, N. E. corner of Willard avenue,	High
44.	Wilbraham road, opposite Northampton avenue,	High
45.	Northampton avenue, N. W. corner of Gunn square,	High
46.	Wilbraham road, at engine house,	High
47.	Monroe street, N. W. corner of Eastern avenue,	High
48.	Hancock street, midway State and Monroe,	High
49.	Quincy street, N. E. corner of Hancock,	High
50.	King street, N. W. corner of Hancock,	High
51.	Eastern avenue, S. W. corner of King,	High
52.	Eastern avenue, N. W. corner of Alden,	High
53.	Walnut street, opposite Manhattan,	High

No.	Location.	Service.
54.	Alden street, S. E. corner of Hancock,	High
55.	Walnut street, east side, south of Queen,	High
56.	Pine street, at cemetery gate,	High
57.	Oak street, east side, near Walnut,	High
58.	Mulberry street, at Ridgewood place,	High
59.	Maple street, S. E. corner of Central,	High
60.	Pine street, N. W. corner of Central,	High
61.	Pine street, N. E. corner of Maple,	High
62.	Central street, N. W. corner of Spruce,	High
63.	Allen street, at Mill,	High
64.	Allen street, at No. 168,	High
65.	White street, at No. 50,	High
66.	White street, N. W. corner of Orange,	High
67.	Highland street, N. W. corner of Orange,	High
68.	Dickinson street, S. E. corner of Oakland,	High
69.	Belmont avenue, at top of hill,	High
70.	Belmont avenue, N. E. corner of Euclid,	High
71.	Belmont avenue, N. E. corner of Oakland street,	High
72.	Garfield street, at Greenleaf (W),	High
73.	Sumner avenue, at Forest park,	High
74.	Sumner avenue, S. W. corner of Forest,	High
75.	Sumner avenue, S. E. corner of Hawthorn place,	High
76.	Magnolia terrace, near No. 77,	High
77.	Sumner avenue, S. E. corner of Beechwood,	High
78.	Sumner avenue, at cemetery,	High
79.	Fort Pleasant avenue, near Crescent terrace,	High
80.	Mill street, S. E. corner Locust,	High
81.	Pine street, at Mill,	High
82.	South street, at Mill river,	High
83.	Main street, at Locust,	High
84.	Adams street, N. E. corner of Main,	Low
85.	Loring street, N. E. corner of Water,	High
86.	Willow street, S. E. corner of Park,	High
87.	Howard street, S. W. corner of Water,	Low
88.	Water street, east side, south of Court,	Low

INDIAN ORCHARD.

No.	Location.	Service.
1.	Myrtle street, S. E. corner Hampshire,	High
2.	Hampshire street, S. W. corner Oak,	High
3.	Oak street, near old Bay road,	High
4.	Worcester street, S. W. corner Oak,	High
5.	Worcester street, near No. 236,	High
6.	Cedar street, east side, near Main,	High
7.	Main street, S. E. corner Myrtle,	High

Track Hydrants—For Car Sprinklers.

No.	Location.	Service.
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street, at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street, at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catharine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	King street, near Eastern avenue,	High
14.	Mill street, opposite Lincoln hall,	High
15.	Sumner avenue, opposite car barn,	High
16.	Fort Pleasant avenue, at Crescent terrace,	High
17.	Main street, at Norwood,	Low
18.	Maple street, at Park,	High
19.	Elm street, at Court square,	High

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TWENTY-EIGHTH
ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

1901

PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,..	1
Calhoun park, Chestnut street, between Calhoun street and Jefferson avenue (pond; no fountain),.....	1
Clarendon park, Clarendon street, at Bay,.....	1
Concord terrace park, Concord terrace,.....	1
Dartmouth park, Dartmouth street, at Bay,.....	1
Forest park, Sumner avenue (no fountain),.....	1
Kibbe park, Federal street, at Armory,.....	1
Magnolia terrace park, Magnolia terrace (two fountains),..	1
McKnight park, Buckingham street, at Bay,.....	1
Mill street park, Mill street, at Pine,.....	1
Stearns park, between Bridge and Worthington streets,....	1
Thompson park, St. James avenue, at Worthington street,..	1
Winchester park, State street, at Wilbraham road (no fountain), ...	1
Total, parks, ...	13

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1902

TWENTY-EIGHTH
ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

1901

City of Springfield.

TWENTY-EIGHTH ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT TO THE BOARD,

FOR THE YEAR 1901.

PRESS OF
SPRINGFIELD PRINTING AND BINDING CO.
SPRINGFIELD, MASS.
1902.

DUP. EXCH. 19 JULY 1902
AM. SOC. OF ENG.
FOR COLL.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.
SPRINGFIELD, MASS., December 30, 1901.

To the City Council of the City of Springfield:—

The Board of Water Commissioners herewith submits for your consideration its twenty-eighth annual report, covering the fiscal year ending December 10, 1901, and including the reports of the Water Registrar and the Superintendent to the Board.

THE QUESTION OF NEW SUPPLY.

In the report of last year your Board submitted a statement of the progress made during 1900 in investigating this question, including therein in full the lengthy and very complete communication of the State Board of Health on the subject of improving the supply at Ludlow, and a new supply from the north branch of the Westfield river.

We also reported that the work of experimenting with the filtration of Ludlow water had been begun under the authority of the order passed by the City Council in July, 1900.

We have now to report that during the year just closing, the experiments in filtration of the Ludlow reservoir and Jabish brook waters have been continued without interruption, and under the specific directions of the State Board of Health. Various designs for filters, methods and suggestions, have been submitted from time to time by the State Board of Health and no effort has been spared on the part of this department in carrying out the desires of that Board. The water of the Ludlow reservoir deteriorated this year, as usual, upon the advent

of warm weather, and the offensive condition in taste and smell, which has been observed annually with very few exceptions since the reservoir was constructed, again prevailed in a very marked degree. It was found that a single filtration of the water when in this offensive condition failed to thoroughly remove the taste and odor, although all matter in mechanical solution was effectually deposited on the top and in the upper layer of the sand forming the filter. By aerating the partly purified water and then passing it at a more rapid rate through a secondary sand filter, all traces of taste and odor were removed and the final effluent was practically colorless and tasteless. Many and long continued experiments (carefully recorded) on the rates of filtration, depths of water required to produce these rates, time required for aerating the sand beds when used intermittently, and the amount of aeration of the water required before secondary filtration, have been conducted under specific instructions received from the State Board of Health, and all of the measurements and results obtained have been reported and transmitted weekly to the Chief Engineer of that Board, who has made frequent visits of inspection to the plant for the purpose of personally observing the methods as they were used and for judging of their sufficiency.

The chemist and biologist at Ludlow was assigned for duty at the experiment station by the State Board, and his salary and expenses have been paid by that Board; all other expenses for materials, filtration devices and services, required in carrying out the directions of that Board, have necessarily been paid by this department. The State Board has also requested that accurate measurements of the actual consumption of water be made, and that certain estimates of the cost of constructing a filtration system and ultimately appropriating the waters of the Swift river be prepared, as a basis for comparing the cost of improving and enlarging the present supply with that of a new and independent supply.

We hoped and expected to be able to report final results and opinions as reached by all parties engaged in this important investigation in this our annual report, but we have been recently informed by the State Board that in order to thoroughly cover the possibilities in the case, the experiments and examinations of the water and the organic life contained therein should be continued for the full year from the time when the several methods of filtration were all actually put to test, which was about February 1, 1901. As soon as possible after the receipt of the advice of the State Board, we shall submit the whole matter in detail to your Honorable Council for such action as you may deem best for the interests of the city.

On October 6th, 1901, your Board instructed our engineer to communicate with the State Board of Health for the purpose of ascertaining how much longer the experiments were desired, and the correspondence on the subject is herewith submitted:—

NEWTONVILLE, MASS., October 7, 1901.

X. H. Goodnough, Esq.,
Chief Engineer State Board of Health,
Boston, Mass.

DEAR SIR:—On June 25, 1900, the Springfield Water Board made application to your board for advice "in the matter of the experimental filtration of the waters of the Ludlow and Jabish Brook sources."

This application stated that it was desired to determine from experiments to be made:—

"1st. Whether or not these waters can, by filtration, be made always suitable in quality for the future permanent uses of the city;

"2d. Whether or not, from all the results reached by the experiments, the purification by filtration of all the water which these sources may by further development of capacity be made to yield would be the most economical, practicable and appropriate method of providing the city with a satisfactory supply of water for the period of years extending forward to the time when the limit of the enlarged capacity of the sources will be reached."

Following the filing of this application the Springfield Board proceeded to construct and establish under your approval an experiment

station for the purpose of conducting tests in filtration of the above waters, and experiments with the outfit thus provided were actually begun on December 27, 1900, and have been continued by the city, under the direction of your Board, without serious interruption, until the present time. Weekly returns showing the results reached by the experiments have been promptly forwarded to your office, and all the appliances and operations at the Ludlow station have been fully open at all times to your inspection. During the past summer the usual bad condition of the Ludlow reservoir water has prevailed for a limited period, but at the present writing the two waters are in about the condition they were in before the warm weather period. The enclosed quotation of results indicates this.

In order that the Springfield Board may arrange its programme for the coming colder weather, the desire of your Board as to the continuance of the experimental work at the station should be known. Accordingly will you kindly inform me as soon as may be as to this matter, so that arrangements may be made for prolonging or discontinuing the maintenance of this experiment station as your Board may indicate. The Springfield Water Board does not care to make any unnecessary expenditures in continuing these experiments, but fully intends to maintain the station and obtain results by experiment until it is informed by your Board that the work need be carried no farther.

Yours very truly,

PERCY M. BLAKE,
Engineer Springfield Water Board.

To the foregoing the State Board replied as follows:—

COMMONWEALTH OF MASSACHUSETTS.

OFFICE OF THE STATE BOARD OF HEALTH,
STATE HOUSE, BOSTON.
December 5, 1901.

To Mr. Percy M. Blake,
Engineer of Springfield Water Board.

SIR:—Your communication relative to the further continuance of the experiments upon the filtration of water at Ludlow has been referred to the Board, and, after a general consideration of the results of the investigation thus far, and of the character of the water of

the Ludlow reservoir during the present year, as compared with its character in previous years, it is deemed desirable by the Board that the present investigations should be carried on at least until they have covered a full year. The investigations began practically at the beginning of the present year, but complete observations were not begun until the latter part of February. It is advisable, in the opinion of the Board, to continue the experiments at least until that time in order that observations for a full year may be available.

If, in the meantime, new conditions should arise not previously met with during these investigations, it may be desirable to continue them for a longer time.

By order of the Board,

SAMUEL W. ABBOTT, *Secretary.*

On December 11 the following communication was received from your honorable body, viz.:—

CITY OF SPRINGFIELD.

IN COMMON COUNCIL, December, 9, 1901.

Ordered, if the Board of Aldermen concur, that the Board of Water Commissioners of the City of Springfield be, and hereby is, requested to report to the City Council as to the amount expended under the order, dated June 25, 1900, authorizing the expenditure of a sum not exceeding twelve thousand (12,000) dollars for the purpose of making experiments in the filtration of the present water supply at Ludlow, and also as to the extent of the experiments made under said order.

And the said Board is further requested to report to the City Council such information as has been received from the State Board of Health, in relation to such experiments up to the present time, and its opinion as to the success or failure of the filtration of Ludlow water.

A true copy of an order passed by the City Council December 9, 1901, and approved December 10, 1901.

ATTEST, E. A. NEWELL, *City Clerk.*

To which we made the following reply, viz.:—

DECEMBER 16, 1901.

To the City Council:—

GENTLEMEN:—Complying with the request contained in the order passed by your honorable body on December 9th, 1901, asking this Board to report, 1st, "as to the amount expended under the order dated June 25th, 1900, authorizing the expenditure of a sum not exceeding twelve thousand (12,000) dollars for the purpose of making experiments in the filtration of the present water supply at Ludlow"; 2d, "as to the extent of the experiments made under said order"; 3d, "such information as has been received from the State Board of Health in relation to such experiments up to the present time"; and 4th, "its opinion as to the success or failure of the filtration of Ludlow water," we respectfully submit the following statement:—

First. There was expended and charged in 1900 the sum of $4,037.19 as stated in our last annual report; in the current year, just closed on December 10th, 1901, there has been expended and charged the further amount of $7,642.96; making the total expenditure from the appropriation $11,680.15 and leaving a balance on December 10, 1901, of $319.85.*

Second. The experiments began with the erection of a building, construction of water tanks and two large gravity sand filters, pump-house, necessary piping for conveying the waters to be filtered, purchase of pumps and apparatus for operating the filters and putting same in place for use, all of which was done in accordance and to comply with the suggestions of the State Board of Health. From time to time smaller experimental filters, aerators, chemical appliances and material have been purchased at the request of the State Board, and a small gas machine, stoves for heating and printed forms and record books obtained to facilitate and record the results. The experiments have covered the widest range possible and include efficiency of sand of different sizes, and other materials to purify the water, value of aeration, rates of filtration, periods of rest or suppression of the filtering processes, frequency of cleaning necessary, cost of cleaning sand beds, head or pressure necessary to secure best results, loss of head in passing through different kinds of sand, amount and kinds of organic life in the water, presence of essential oils and gases producing the tastes and odors and the methods of oxidizing and neutralizing them, effect of temperature on the filters, relation of color in the water to the amount of vegetable and organic

matter as related to sedimentation before filtration and many other important and microscopical tests of the water before and after filtration. All results have been tabulated and recorded as directed by the State Board and will make a large volume of information for the use of the Board in arriving at an opinion as to the feasibility of filtering the reservoir and canal waters at all seasons of the year and under all climatic conditions. We are informed that not less than thirty different methods of treating the water by filtration have been thoroughly tested, and that in every instance the experts of the State Board have carefully outlined this work and given it personal inspection by frequent visits to the station.

Third. This Board has as yet received no information from the State Board or any of its experts, as to the conclusions to be drawn from this experimental work; we have, however, been assured by the chief engineer of that Board that the work done and now drawing to a close has been thoroughly and faithfully conducted and that the results will undoubtedly enable the State Board to finally advise this Board as to the best plan for providing a proper and permanently satisfactory water supply for the city.

Fourth. Until this Board receives such final advice from the State Board, we do not deem it wise to express any opinion "as to the success or failure of the filtration of Ludlow water." As soon as the advice of the State Board is received, we shall transmit it, accompanied by all the information obtained, together with our recommendations, to your honorable body.

Respectfully submitted,

C. L. GOODHUE,

J. F. BIDWELL,

Water Commissioners.

*These amounts corrected later on books, as follows:—expended in 1901=$7,645.36; total expenditure=$11,682.55; balance Dec. 10, 1901=$317.45.

QUALITY OF SUPPLY.

The water supplied to the city during the year past has been of fair quality, except through the heated term, when the water in the Ludlow reservoir became very offensive in taste and odor, as hereinbefore mentioned.

The conditions affecting the quality of the supply were closely watched at this time by Mr. F. F. Moore, assistant engineer of the filtration experiment at Ludlow reservoir, and in August it was deemed necessary to supplement the supply from Jabish brook by pumping from Five Mile pond.

After an analysis of samples of water from this pond had shown this supply to be of excellent quality, the pumps were started at noon of August 15, 1901, and (with the exception of five days when they were stopped because of heavy rains having occurred) continued in operation until 4 P. M. of ~~October~~ September 30, 1901, when the pumping was stopped.

The quantity of water thus pumped was 80,422,080 gallons, as recorded by Mr. F. H. Dearden, the engineer in charge.

CONSTRUCTION.

The total amount *charged* to this account during the past year was $13,868.80, which includes the following principal expenditures, viz.: $5,174.62 for extension of distribution mains 8,668 feet, making a net total of 146.22 miles of pipe in the water works system; $7,645.36 on the filtration experiment at the Ludlow reservoir, and $611.09 for legal expenses on Jabish brook cases.

During the year there has been *credited* to construction account the total sum of $1,165.10, which includes the sale of a tract of land on Armory street for an engine-house lot for $1,100.00, and other smaller sales of materials, etc., all of which were originally charged to construction account when purchased for reservoir purposes.

This, therefore, makes the *net total amount added* to this account during the year of $12,703.70.

The following tabulation shows the amount and cost of the distribution mains extension in each year since 1890:—

STATEMENT.

(*Feet totals are taken from annual tables in Superintendent's Report.*)

Extensions in	1891,	were	14,927 feet,	cost.	$10,396 00
" "	1892,	"	24,853 "	"	16,253 21
" "	1893,	"	25,079 "	"	17,090 71
" "	1894,	"	20,280 "	"	13,491 16
" "	1895,	"	32,368 "	"	25,302 47
" "	1896,	"	23,521 "	"	21,018 62
" "	1897,	"	39,108 "	"	22,349 41
" "	1898,	"	28,810 "	"	16,042 36
" "	1899,	"	20,851 "	"	10,069 22
" "	1900,	"	9,880 "	"	6,362 20
" "	1901,	"	8,668 "	"	5,174 62

MAINTENANCE.

The total amount charged to maintenance account during the past year was $114,395.98, distributed as follows:—

GENERAL MAINTENANCE.

Management and repairs (operating, etc.), .	$22,375 29	
Interest on bonds, ...	87,250 00	
Taxes on reservoir property, ...	238 00	
		$109,863 29

SPECIAL MAINTENANCE.

Engineering (mapping, etc.), ...	$136 63	
Damages (from broken mains, accidents, etc.),	167 48	
Pumping station, Chapin pond (care and repairs), ...	27 25	
Pumping station, Five Mile pond (operating and care and repairs), ...	1,940 98	
Distribution mains—renewals, ...	2,260 35	
		4,532 69
		$114,395 98

The net addition to the number of service connections during 1901 is 270, making a total of 10,034 connected to the distribution system.

The following summary shows the total number and the number of net additions each year since 1884:—

In	1885,	Total number service taps,				4,237	Net increase,		224
"	1886,	"	"	"	"	4,519	"	"	282
"	1887,	"	"	"	"	4,819	"	"	300
"	1888,	"	"	"	"	5,147	"	"	328
"	1889,	"	"	"	"	5,497	"	"	350
"	1890,	"	"	"	"	5,770	"	"	273
"	1891,	"	"	"	"	6,181	"	"	411
"	1892,	"	"	"	"	6,633	"	"	452
"	1893,	"	"	"	"	7,000	"	"	367
"	1894,	"	"	"	"	7,482	"	"	482
"	1895,	"	"	"	"	7,900	"	"	418
"	1896,	"	"	"	"	8,298	"	"	398
"	1897,	"	"	"	"	8,721	"	"	423
"	1898,	"	"	"	"	9,070	"	"	349
"	1899,	"	"	"	"	9,456	"	"	386
"	1900,	"	"	"	"	9,764	"	"	308
"	1901,	"	"	"	"	10,034	"	"	270

FINANCIAL.

The total cash receipts of the department from water rates, services, repairs, sales, etc., amounted to $237,823.51.

The following statement shows the annual increase since 1885 in the total amounts charged and collected each year *for water only.*

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

YEAR.	Water Rates Charged. (*During the year, only.*)		Water Rates Collected.*	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	. . . .	$90,848 05	. . . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890**	133,553 28**	7,332 56	129,913 27**	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58
1900	225,798 96	5,125 82	218,741 57	5,680 33
1901	233,227 98	7,429 02	218,815 05	73 48

☞ The small increase in "Water Rates Collected" in 1901, as compared with similar annual increase shown in previous years (and in contrast with the usual average increase in "Water Rates Charged" during 1901) is due to the *non-payment* of the annual charge for water for street-sprinkling purposes, amounting to $5,799.11; the same being included, therefore, under the first division of the foregoing statement, but not under the second.

*For amounts abated and uncollected, see detail in Registrar's report.

**Amounts for 1890 are estimated at $20,000 less than actual totals for that year, which include fifteen months' water rates, instead of twelve, due to change of time in rendering the semi-annual bills.

BONDED DEBT.

The following statement shows the creation, rate of interest, dates of maturity, and present condition of the bonded debt:—

7 per cent. bonds, falling due as follows:—		
April 1, 1894, to April 1, 1902, $25,000 annually (issued 1873), . .	$225,000 00	
April 1, 1903 (issued 1873–1874),	775,000 00	
Total issue of 1873 and 1874, . .		$1,000,000 00
Less bonds paid as follows:—		
April 1, 1894, from tax levy, .	$25,000 00	
April 1, 1895, " " " .	25,000 00	
April 1, 1896, " " " .	25,000 00	
April 1, 1897, " " " .	25,000 00	
April 1, 1898, " sinking fund. .	25,000 00	
April 1, 1899, " " " .	25,000 00	
April 1, 1900, " " " .	25,000 00	
April 1, 1901, " " " .	25,000 00	
		200,000 00
Balance of 7 per cent. bonds outstanding,		$800,000 00
6 per cent. bonds, falling due April 1, 1905 (issued 1875),		200,000 00
3½ per cent. bonds, falling due October 1, 1920 (issued 1890),		125,000 00
4 per cent. bonds, falling due as follows:—		
April 1, 1913 (issued 1893), .	$200,000 00	
October 2, 1923 (issued 1893), .	150,000 00	
Total issue of 1893, ...		350,000 00
Net total bonds outstanding, ...		$1,475,000 00

SINKING FUND.

The condition of the sinking fund is shown in the statement following, the available surplus from water works receipts of 1901 being decreased by the amount of $5,799.11 charged for water for street sprinkling purposes and *unpaid,* as noted previ-

ously under "Comparative Statement of Water Receipts Since 1885."

Balance in hands of Sinking Fund Commissioners, December 10, 1900,	$361,495 60
Surplus transferred December 31, 1900, from water works receipts of 1900,	100,366 30
Total for investment to April 1, 1901,	461,861 90
Less amount paid City Treasurer to meet 7 per cent. bonds due April 1, 1901,	25,000 00
Total for investment from April 1, 1901,	$436,861 90
Net interest on investments during 1901,	10,087 09
Balance in hands of Sinking Fund Commissioners, December 10, 1901,	$446,948 99
Available surplus from water works receipts of 1901,	94,097 81
Total amount available, December 10, 1901,	$541,046 80

DETAILS.

The details of the finances and condition of same, and the work of the department during the past year, will be found in the reports of the Water Registrar and of the Superintendent submitted to the Board, which reports are hereto annexed and are made a part of the report of the Board to the City Council.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
WILLIAM P. HAYES,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 30, 1901.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1901.

Read and concurred.

H. S. GILBERT, *Clerk.*

December 31, 1901.

Presented to the Mayor for approval.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS.,
December 31, 1901.

Approved.

WILLIAM P. HAYES, *Mayor.*

WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:—

GENTLEMEN:—The following report of the Water Registrar for the fiscal year ending December 10, 1901, is herewith respectfully presented:—

For convenient reference the statements given are separated into three principal divisions, viz.:—

1.—General Financial.
2.—Detail Financial.
3.—Miscellaneous.

1.—GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

To collections paid City Treasurer by City Collector, ...			$237,823 51
By approved bills and pay rolls paid by City Treasurer, as follows:—			
Total pay rolls approved,	$26,769 15		
Less amounts uncalled for,	3 94		
Total pay rolls paid, .	$26,765 21		
Total bills approved and paid,	29,710 49		
		$56,475 70	
By interest on water bonds paid by City Treasurer, ...		87,250 00	
By balance transferred to sinking fund by City Treasurer, ...		94,097 81	
			$237,823 51

The net cost of construction and maintenance during the year has been charged to the following accounts:—

CONSTRUCTION.

Distribution mains — extension,		$5,174 62	
Hydrants — extension,		37 04	
Standpipes — for street sprinkling,		287 28	
Track-hydrants — for street sprinkling,		71 65	
Meters — extension (city meters),		26 66	
Water rights, Jabish brook (legal expenses on account of "Ludlow Reservoir Improvement" in 1890 and 1891),		611 09	
Westfield river — possible supply,		15 10	
Experimental filtration at Ludlow reservoir,		7,645 36	
Total charged,			$13,868 80
Less amount *credited old "Construction" account,* for sale of engine-house lot on Armory street, and sand from old reservoir property,			1,165 10
Net total construction added,			$12,703 70

MAINTENANCE.

General:—			
Management and repairs,		$22,375 29	
Interest, coupons,		87,250 00	
Taxes,		238 00	
			$109,863 29
Special:—			
Engineering (mapping),		$136 63	
Damages,		167 48	
Pumping station, Chapin pond—			
Care and repairs,		27 25	
Pumping station, Five Mile Pond—			
Operating,	$1,355 85		
Care and repairs,	585 13		
		1,940 98	
Distribution mains — renewals,		2,260 35	
			4,532 69
Total,			$114,395 98

COST OF WATER WORKS.

Net total cost, December 10, 1900, ...	$2,128,559 56
Net aggregate construction added, 1901, . . .	12,703 70
Net total cost of water works to December 10, 1901,	$2,141,263 26

Divided as follows :—

Balance of *old "Construction" account* in ledger to *December 10, 1893* (in future to be analyzed and separated, so far as possible, into its component construction and property accounts), —Note amounts credited during 1900-1901—	$1,656,562 98	
Net cost of *Ludlow Main No. 2* to December 10, 1901, ...	320,986 83	
NET *aggregate of new construction and property accounts*, as classified in ledger and annual reports since 1893, ...	163,713 45	
Total as stated, ...		$2,141,263 26

BONDED DEBT.

(As per Books of City Treasurer.)

800 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows :—		
$25,000 payable April 1, 1902, .	$25,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
		$800,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875, and all due April 1, 1905, . . .		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920, ...		125,000 00
Amount carried forward,		$1,125,000 00

Amount brought forward,		$1,125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow Main No. 2, and due as follows:—		
$200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works, December 10, 1901,		$1,475,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1900, . . .		$361,495 60
Balance transferred from water works receipts of 1900, ...	$100,366 30	
Interest on investments, 1901 (*net*), . .	10,087 09	
	$110,453 39	
Less amount paid City Treasurer to meet 7 per cent. bonds, due April 1, 1901, ...	25,000 00	
		85,453 39
Balance in hands of Sinking Fund Commissioners, December 10, 1901, ...		$446,948 99
Balance available from water works receipts of 1901, ...		94,097 81
Total amount available December 10, 1901,		$541,046 80

INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1901 (as per report of the Superintendent), is distributed to the following accounts:—

Cast-iron pipe stock,	$6,105 69	
Wrought-iron pipe stock,	1,021 45	
Meter stock,	222 38	
Stores and supplies,	1,201 82	
Tools and machines,	2,530 78	
Office furniture and fixtures,	699 40	
Teams,	1,160 53	
Pumping station, Chapin pond,— operating acct. (coal, etc., on hand)	80 56	
Pumping station, Five Mile pond,— operating acct. (coal, etc., on hand)	40 68	
Total,		$13,063 29

2.—DETAIL FINANCIAL STATEMENTS.

Receipts.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1900.	Committed During 1901.	Totals.
Water rates—annual,	$2,676 46	$148,400 27	$151,076 73
Water rates—meter,	81 61	70,572 24	70,653 85
Water rates—hose and fountains,	116 50	6,864 25	6,980 75
Water rates—builders,	175 65	1,060 60	1,236 25
Water rates—sprinkling streets,	. . . .	5,799 17	5,799 17
Water rates—miscellaneous,*.	87 91	*531 45	619 36
Total water accounts,	$3,138 13	$233,227 98	$236,366 11
Services and repairs,	$1,672 43	$11,268 19	12,940 62
Meters and repairs,	179 95	3,911 70	4,091 65
Fines and penalties,	14 00	260 00	274 00
Off and on,	11 25	83 77	95 02
Seals,	. . . .	1 97	1 97
Miscellaneous accts. (sales, etc.)**	93 89	**3,888 19	3,982 08
Total other accounts,	$1,971 52	$19,413 82	$21,385 34
Totals charged 1901,	$5,109 65	$252,641 80	$257,751 45

*The amount of *$531.45*, charged during 1901 for *"Water rates—miscellaneous,"* includes:—

Rates for sundry season uses,	$335 00
" " fish-tanks and aquariums,	10 00
" " circuses and exhibitions,	6 21
" " main pipe guarantees,	180 24

**The amount of *$3,888.19*, charged during 1901 for *"Miscellaneous accounts,"* includes:—

Rental of land and offices and loan of tools, etc.,	$1,255 25
Use of horse by sewer department in flushing sewers (four months to April 1st, only),	153 00
Sundry work for other city departments,	454 80
Shop sales of material and labor (accommodation, only),	925 14
Sale of land on Armory street, for engine-house lot,	1,100 00

AMOUNTS ABATED TO COLLECTOR, AMOUNTS UNCOLLECTED, AND AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Abated During 1901.	Uncollected Dec. 10, 1901.**	Collected During 1901.
Water rates—annual,	*$8,230 31	$2,573 58	$140,272 84
Water rates—meter,	91 80	223 70	70,338 35
Water rates—hose and fountains,	108 17	116 00	6,756 58
Water rates—builders,	36 00	282 00	918 25
Water rates—sprinkling streets,	. . . .	5,799 17	. . . . .
Water rates—miscellaneous,	25 00	65 33	529 03
Total water accounts,	$8,491 28	$9,059 78	$218,815 05
Services and repairs,	$34 67	$1,879 27	$11,026 68
Meters and repairs,	15 56	257 67	3,818 42
Fines and penalties,	46 00	16 00	212 00
Off and on,	. . . .	13 50	81 52
Seals,	1 00	. . . .	97
Miscellaneous accounts,	. . . .	113 21	3,868 87
Total other accounts,	$97 23	$2,279 65	$19,008 46
Totals, 1901,	*$8,588 51	**$11,339 43	$237,823 51

*NOTE:—Of the total amount ($8,230.31) abated on account of "*Water rates—annual*," $7,574.33 represent *credits*—or draw-backs—*allowed for vacancies*, in accordance with Rule 12 of the Water Commissioners' rules and regulations.

**NOTE:—Of the total amount of $11,339.43 "*Uncollected Dec. 10, 1901*" (all actual *unpaid bills* at that date), the sum of $7,272.13 (which includes the unpaid charge of $5,799.17 for street sprinkling rates, referred to elsewhere) represents unpaid bills committed to the Collector December 1, 1901, on which the month allowed for payment had not yet expired, leaving $4,067.30 in unpaid bills *actually overdue*.

RECAPITULATION.

DIVISIONS.	Water Accounts.	Other Accounts.	Totals.
Amounts collected, 1901,	$218,815 05	$19,008 46	$237,823 51
Amounts uncollected, 1901,	9,059 78	2,279 65	11,339 43
Amounts abated, 1901,	8,491 28	97 23	8,588 51
Amounts charged (including balances forward from previous year), 1901,	$236,366 11	$21,385 34	$257,751 45

The differences in the *total collection accounts* of 1900 and 1901 are shown as follows:—

COMPARISON: 1900-1901.

	1900.	1901.	DIFFERENCES. 1901.
Amounts collected,	$243,677 00	$237,823 51	—$5,853 49
Amounts uncollected,	5,109 65	11,339 43	—6,229 78
Amounts abated,	7,871 64	8,588 51	716 87
Amounts charged,	$256,658 29	$257,751 45	—$1,093 16

The following table of charges and receipts since 1885 *for water only,* shows the annual growth of the cash income of the department since that date:—

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

YEAR.	Water Rates Charged. (*During the year, only.*) Totals.	Increase.	Water Rates Collected. Totals.	Increase.
1885	$93,421 60	. . . .	$90,848 05	. . . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890	133,553 28*	7,332 56	129,913 27*	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58
1900	225,798 96	5,125 82	218,741 57	5,680 33
1901	233,227 98	7,429 02	218,815 05	73 48**

*Amounts for 1890 estimated at $20,000 less than actual totals for that year, which includes 15 months water rates—instead of 12—due to change of time in rendering the semi-annual bills.

**☞ The small increase in "Water Rates Collected" in 1901, as compared with similar annual increase shown in previous years (and in contrast with the usual average increase in "Water Rates Charged" during 1901) is due to the *non-payment by the city* of the usual annual charge (under an existing arrangement) for water for street-sprinkling purposes, amounting to $5,799.11; the same being included therefore under the *first* division of the foregoing comparative statement but *not* under the *second.*

INCOME:—VALUE ACCOUNTS.

The amounts entered on the ledger for 1901 are shown as follows:—

USE OF WATER BY THE CITY.

(Charged and credited as shown below.)

Almshouse and annexed buildings,		$376 00
City hall,		43 00
Fire department (buildings),	$588 00	
Fire department (hydrant service), 964 fire hydrants at $20 (amount fixed by city ordinance),	19,280 00	
		19,868 00
Forestry department (buildings),		14 00
Highway department (city yards, etc.),		51 60
Parks (fountains and ponds, $550; hose, $95),		645 00
Police department (buildings),		103 00
Scavenger department and Wayfarers' lodge,		74 00
School department (buildings),		10,150 27
Sewer department (building purposes),	$247 26	
Sewer department (flushing), (amount fixed by city ordinance in 1880),	500 00	
		747 26
Watering tanks and drinking fountains,		640 00
Amount charged *(on ledger only)* to "**City of Springfield—Special Account,**" (NOTE:—CALLED A RESOURCE ACCOUNT IN PARTIAL OFFSET TO LIABILITY ACCOUNTS OF CITY BONDS AND APPROPRIATIONS.)		$32,712 13
Water department (buildings), amount charged *(on ledger only)* to "**Expense,**"		85 00
Total credited *(on ledger as gain account)* to "**Water Rates—City Use**" (forward),		$32,797 13

Brought forward,		$32,797 13

RENTS OF REAL ESTATE.

(*Charged and credited as shown below.*)

Foreman's house, No. 37 Bridge street (charged to "**Labor**"), . . .	$156 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "**Teams**"), . .	300 00	
Keeper's house, Ludlow reservoir (charged to "**Care and Repairs—Ludlow Reservoir**"),	180 00	
Keeper's house, Van Horn reservoir (charged to "**Care and Repairs—Van Horn Reservoir**"), ...	100 00	
Total credited to "**Rents,**"		736 00
Total, "INCOME:—VALUE ACCOUNTS," . . .		$33,533 13

Expenditures.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts during 1901:—

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Alderman street, ...	204 feet,	6 inch,	$106 23
Boston road, ...	302 "	6 "	220 28
Columbus avenue (material, only—acct. 1900), ...	20 "	1 "	2 12
Calhoun street (material, only), .	33 "	1¼ "	3 22
Chestnut street, I. O. (material, only),	15 "	4 "	5 08
Amount carried forward,			$336 93

LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward,			$336 92
Dickinson street,	273 feet,	6 inch,	133 21
Dupont place (material, only),	191 "	1¼ "	26 35
Franklin street,	34 "	6 "	116 31
Grand avenue,	556 "	6 "	376 66
Hunter place,	457 "	6 "	382 72
Irvington avenue,	390 "	6 "	265 26
Ludlow Mfg. Co.'s new street "A" (Off Parker street, I. O.)	455 "	6 "	320 38
" " " " " "B" (Off Parker street, I. O.)	183 "	6 "	113 11
" " " " " "C" (Off Parker street, I. O.)	250 "	6 "	156 39
Mill street,	467 "	1½ "	119 47
Market street,	101 "	6 "	85 86
Oak street, I. O.,	734 "	6 "	390 03
Ozark street,	130 "	6 "	81 31
Pasco street, I. O.,	218 "	6 "	137 34
Ridgewood terrace,	12 "	4 "	6 80
Railroad street,	75 "	1¼ "	31 18
Springfield street,	336 "	6 "	165 49
Sumner avenue,	1,105 "	8 "	848 41
	324 "	6 "	169 00
Wareham street,	595 "	4 "	234 79
Worcester street, I. O.,	1,079 "	6 "	677 62
Total charged,			$5,174 62

STANDPIPES—FOR STREET SPRINKLING.

Armory street, S. W. cor. Warwick avenue,	$32 65
Cornell street, at Harvard (S),	31 95
Dickinson street, opposite Keith,	43 28
Florida street, S. E. cor. Worthington,	33 60
Hyde avenue, S. E. cor. Plainfield street,	35 77
Norwood street, at Hanover,	34 78
Plainfield street, at Clayton avenue,	37 14
William street, N. E. cor. Main,	38 11
Total,	$287 28

EXPERIMENTAL FILTRATION.

Engineering (services and expenses),	$3,030 17
Pay rolls (labor and teaming),	1,541 87
Pumps, boilers, etc.,	132 37
Pipe, valves, fittings, and plumbing (net),	167 68
Filters and tanks, etc. (net),	1,415 08
Apparatus, furniture, and fixtures,	625 82
Tools and general supplies,	130 77
Incidentals,	74 99
Operating supplies (coal, oil, chemicals, etc.),	526 61
Total,	$7,645 36

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$7,826 56	
Inspection (salaries and expenses),	3,645 81	
Teams (balance undistributed),	394 10	
Tools and machines (net loss),	488 48	
Stores and supplies (net loss),	107 26	
Office furniture and fixtures (net loss),	190 31	
Stationery and printing,	369 28	
Office account (janitor, supplies, etc.),	497 45	
Heat and light,	312 62	
Expense account (net),	270 19	
Expense, city departments (net),	19 80	
Telephone service,	129 08	
Off and on (services, etc.) (net),	278 49	
Refunds,	46 53	
Frozen services,	38 42	
Quality expense (flushing mains, getting samples, etc.),	34 25	
Petty maintenance,	887 99	
		$15,536 62
Care and repairs, Van Horn reservoirs,	$576 01	
" " Ludlow reservoir,	1,102 00	
" " Belchertown reservoirs,	809 36	
" " Ludlow main No. 1 (24 inch),	48 23	
" " Ludlow main No. 2 (36 inch, etc.),	52 52	
" " Distribution mains, cast iron,	372 70	
Amounts carried forward,	$2,960 82	$15,536 62

Amounts brought forward,		$2,960 82	$15,536 62
Care and repairs,	Distribution mains, wrought iron,	387 97	
" "	Gates and valves,	310 06	
" "	Hydrants,	477 56	
" "	Standpipes (for street sprinkling),	300 30	
" "	Track hydrants (" "),	33 29	
" "	Drinking fountains,	77 71	
" "	Meters (net),	178 47	
" "	Services (net),	1,922 30*	
" "	Private telephone lines,	18 00	
" "	Indian Leap Bridge,	7 01	
			6,673 49
Repairs (real estate),	No. 43 Bridge street,	$6 30	
" "	Stable, Bridge street,	58 37	
" "	No. 49 Bridge street,	64 08	
" "	House, Van Horn reservoir,	4 27	
" "	House, Ludlow reservoir,	32 16	
			165 18
Total,			$22,375 29

INTEREST ON BONDS.

$825,000 at 7 per cent., 6 months,†	$28,875 00†	
$800,000 at 7 per cent., 6 months,†	28,000 00†	
$200,000 at 6 per cent., 12 months,	12,000 00	
$125,000 at 3½ per cent., 12 months,	4,375 00	
$350,000 at 4 per cent., 12 months,	14,000 00	
Total,		$87,250 00

*"CARE AND REPAIRS—SERVICES" may be analyzed as follows:—

Acct. of corporation cocks, nips, leaks, etc.,	$659 97
" of putting on pump (small pressure),	91 42
" of stoppage by eels,	21 40
" of putting new stops inside curb line,	890 39
" of relocating stops, etc.,	67 85
" of cutting off abandoned services,	46 33
" of reconnecting services,	11 71
" of repairs of stops, valves, pipe, etc.,	78 37
" of raising or lowering boxes, and repairing or cleaning same,	25 63
" of changing and transferring service connections,	3 54
" of changes, etc., for new sewers,	5 08
" of street and walk repairs,	15 16
" of filling holes in streets,	5 45
Total,	$1,922 30

†Twenty-five $1000-7 per cent. bonds, due and paid April 1, 1901.

TAXES.

On reservoir property at Belchertown :—		
Per acts of 1890, chapter 303, . .	$55 74	
Per acts of 1893, chapter 352, . .	11 23	
		$66 97
On reservoir property at Ludlow :—		
Per acts of 1893, chapter 352, ...		171 03
Total, ...		$238 00

DAMAGES.

Paid sundry persons for damages claimed on account of flooding brook from Ludlow reservoir in the summer of 1901, ...	$100 00
Paid sundry expenses for repairing damages at 63 North Main street, caused by break in water main, . .	67 48
Total, ...	$167 48

PUMPING STATION, FIVE MILE POND.

Operating:—		
Fuel, supplies, etc. (net), ...	$957 10	
Labor (pay roll, engineer, etc.), . .	398 75	
		$1,355 85
Care and Repairs:—		
Labor and material, ...		585 13
Total, ...		$1,940 98

DISTRIBUTION MAINS—RENEWALS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
North Main street, ...	1,780 feet,	8 inch,	$2,163 54
Wason avenue, ...	76 "	8 "	96 81
Total, ...			$2,260 35

3.—MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated, and uncollected during 1901, the number charged being also the number of premises ordered shut off to enforce payment of same:—

DIVISIONS.	For Unpaid Bills.		For Waste Unchecked.	Total Number.
	Due before 1901.	Due in 1901.		
Number uncollected, 1900 (forward),	7	. . .	0	7
Number charged during 1901, . .	0	130	0	130
Total charged collector, 1901, . .	7	130	0	137
Number collected during 1901, . .	4	102	0	106
Number abated during 1901, . . .	2	21	0	23
Number uncollected, 1901 (forward),	1	7	0	8
Total, as above, ...	7	130	0	137

METERS AND INDICATORS.

Total number in use October 1, 1900, . . .		3,122
Number of meters (on service pipes) added (net), .	207	
Number of indicators (on elevators and motors) added (net),	8	
Net total number added to October 1, 1901, .		215
Total number in use October 1, 1901 (see table of same following),		3,337

Total quantity of metered water charged during 1901, ...	433,077,915 gallons
Average quantity charged per meter or indicator,	129,781 gallons
Total amount charged during 1901, . . .	$70,572 24
Average amount charged per meter or indicator,	$21 15
Average rate charged per 1,000 gallons, . .	16.29+cents

TABLE OF METERS AND INDICATORS.*

(*To October 1, 1901.*)

KIND AND SIZE.	½″ or ⅝″	¾″	1″	1½″	2″	3″	4″	6″	Indicators.	Totals.
Meters.										
Ball & Fitts, Piston	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Crown	976	595	68	16	14	4	1	.....	.....	1,674
Desper	5	1	.....	.....	.....	.....	.....	.....	.....	6
Hersey (rotary)	243	299	20	9	8	.....	5	1	.....	585
Hersey (disc)	224	183	10	1	1	.....	.....	.....	.....	419
Nash	201	159	16	2	.....	1	.....	.....	.....	379
Thomson	8	7	2	1	.....	.....	.....	.....	.....	18
Trident	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Undine (and Hartford)	2	4	.....	.....	.....	.....	.....	.....	.....	6
Union Duplex	1	1	.....	.....	.....	.....	.....	.....	.....	2
Union Rotary	54	19	2	1	3	.....	.....	.....	.....	79
Worthington	10	6	.....	2	2	.....	.....	.....	.....	20
										3,190
Indicators.										
Desper (for elevators)	.....	.....	.....	.....	.....	.....	.....	.....	119	147
Desper (" motors)	.....	.....	.....	.....	.....	.....	.....	.....	1	
Friction (" elevators)	.....	.....	.....	.....	.....	.....	.....	.....	2	
Graves (" ")	.....	.....	.....	.....	.....	.....	.....	.....	6	
Ross (" motors)	.....	.....	.....	.....	.....	.....	.....	.....	3	
Whitney (" ")	.....	.....	.....	.....	.....	.....	.....	.....	9	
Whittier (" elevators)	.....	.....	.....	.....	.....	.....	.....	.....	5	
Worthington (" ")	.....	.....	.....	.....	.....	.....	.....	.....	2	
Totals	1,724	1,275	118	33	28	5	6	1	147	3,337*

* ☞ *Meters are set at option of consumer, and therefore mostly on frugal supplies; consequently total consumption averages but slightly affected thereby!*

INSPECTION.

The distribution of work done under this head and time spent by the four inspectors on same, during the past year, will be seen by the usual tabulated statement as follows:—

CLASSIFICATION.	INSPECTORS. No. 1. Days.	No. 2. Days.	No. 3. Days.	No. 4. Days.	Total number of day
Reading and inspection of meters	129	154	140	164	587
Turning on and off $8 hose	0	3	0	0	3
Inspection of hose use—general	2	13	11	10	36
General or " house-to-house " inspection	0	11	42	62	115
Semi-annual and monthly inspection (billing)	80	58	0	0	138
Monthly inspection of vacancies reported	0	0	63	0	63
Special inspection (leaks, bills, and collections)	0	2	15	24	41
Special inspection (real estate sales)	0	8	0	14	22
Office work	78	38	18	15	149
Sickness, etc	0	2	0	0	2
Total (289 working days in the year)	289	289	289	289	1,156

During the year 537 cases of leaking fixtures were found on unmetered premises, and the same recorded and the waste caused to be discontinued.

STATISTICS.

Annexed will be found the usual comparative statement showing a classification of consumers supplied at date together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 30, 1901.

BOARD OF WATER COMMISSIONERS, December 30, 1901.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

COMPARATIVE STATEMENT,

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1890, 1900, AND 1901.

CLASSES.	1864.	1874.	1880.	1890.	1900.	1901.
Bakeries	.....	.....	8	15	36	38
Banks	2	9	12	15	16	16
Barber Shops	2	14	3	30	85	85
Baths	.....	439	829	2,654	8,777	9,442
Beer Pumps	.....	.....	.....	.....	67	78
Boarding Houses	.....	33	55	97	77	80
Breweries	.....	.....	2	2	2	2
Cemeteries	.....	.....	1	5	6	6
Churches (from 1895)	.....	.....	.....	.....	39	44
Churches, Halls, and Public Buildings (to 1895)	2	12	14	60	.....	.....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	.....	34	35
Dyehouses and Bleacheries	2	2	3	3	4	4
Elevators	.....	.....	15	96	154	163
Families	1,288	3,637	4,893	8,511	15,179	15,754
Fish Tanks and Aquariums	.....	.....	.....	8	10	10
Foundries	4	5	6	12	13	13
Fountains (private)	.....	.....	12	18	9	9
Fountains (public)	.....	.....	.....	10	14	16
Gas Works	.....	.....	1	1	1	1
Greenhouses	2	3	9	8	24	24
Halls (from 1895)	.....	.....	.....	.....	53	54
Hose	.....	.....	885	1,857	3,827	3,934
Hotels	7	12	15	20	19	19
Laundries	.....	6	6	25	41	44
Manufactories	6	50	80	78	79	79
Markets	8	31	54	60	105	105
Motors	.....	.....	13	44	76	91
Offices and Rooms	.....	88	521	1,088	1,834	1,882
Parks (from 1895)	.....	.....	.....	.....	13	15
Photographers	.....	6	9	11	11	12
Printers and Publishers	.....	.....	.....	25	25	26
Public Buildings and Institutions (from 1895)	.....	.....	.....	.....	27	27
Public Institutions (to 1895)	.....	.....	.....	6	.....	.....
Railroads	.....	.....	3	4	4	4
Restaurants	5	14	17	24	49	52
Saloons	9	34	32	45	44	54
Schools (total to 1897)	.....	12	15	33	.....	.....
Schools (private) (from 1897)	.....	.....	.....	.....	14	14
Schools (public) (from 1897)	.....	.....	.....	.....	32	32
Shops	18	51	88	189	333	339
Slaughter Houses	.....	.....	.....	1	.....	.....
Stables (private)	82	274	379	704	1,260	1,290
Stables (public)	6	14	23	30	31	30
Steam Engines	.....	.....	48	74	116	117
Steam Heaters	.....	.....	32	104	806	839
Stores	125	225	320	359	693	712
Street Railways (from 1895)	.....	.....	.....	.....	1	1
Urinals	.....	131	296	435	560	576
Water Closets	.....	1,192	2,402	6,792	16,958	17,944
Watering Tanks and Drinking Fountains	.....	.....	.....	12	14	14

SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1901.

Springfield Water Works, Hampden County, Mass.

Population by U. S. census of 1900, ... 62,059

Dates of construction:—

Original works in city, by private company, 1864
(Sale of same to city, for $238,296.00, in 1872.)

Works at Ludlow, Mass., . . 1873–1874–1875

Works at Belchertown, Mass., . . . 1890–1891

Additional main from Ludlow reservoir, . 1893–1894

By whom owned, ... City of Springfield

Sources of supply:—

Low pressure — from impounding reservoirs in the city fed by springs, surface water, and also by the high pressure.

High pressure — from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs, and surface water.

(Aggregate storage capacity, 2,295,792,000 gallons.)

Mode of supply, ... entirely by gravitation.

FINANCIAL.

(NOTE.—All expenditures, including ordinary extensions of mains, etc., are made from general receipts—from water rates, sales, etc.—but the *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS (credited).

INVENTORY of material, tools, etc., on hand Dec. 10, 1900			$11,686 38
FROM CONSUMERS (*Division II.*):—			
N. Water rates, fixed	$148,476 70		
Q. Water rates, meter (*Division I.*)	70,338 35		
C. Net receipts for water (from consumers)	$218,815 05		
D. (Including "U", under construction.) Miscellaneous—(services, meters, repairs, rents, sales, etc.) (See "Services" under "Distribution"—18, 19, 20, etc., note)	19,008 46		
E. Total, 1901		$237,823 51	
FROM PUBLIC FUNDS:—			
F. Hydrants, 964 at $20 (*value*)	$19,280 00*		
G. Fountains, tanks, sewers, etc. (*value*)	2,032 26*		
H. Street watering (*cash*) (bill not yet paid.)	00 00		
I. Public buildings and departments (*value*)	11,484 87*		
J. General appropriations	00 00		
Total, 1901		32,797 13	
FROM REAL ESTATE RENTALS:— House rent given employees in part payment for services (*value*),—(amount of same charged to proper maintenance accounts under expenditures.)		736 00*	
K. Gross receipts credited from all sources, 1901 (*cash and value*)			271,356 61
Total available including material, etc., from previous year			$283,043 02

EXPENDITURES (charged).

GENERAL ACCOUNT:—			
AA. Management and repairs	$22,375 29		
BB. Interest on bonds	87,250 00		
Taxes on reservoir prop'ty	238 00		
		$109,863 29	
SPECIAL ACCOUNT:—			
Distrib'n mains, renewals	$2,260 35		
Pumping station, Chapin pond (care and repairs)	27 25		
Pumping station, Five Mile pond (operating and care and repairs)	1,940 98		
Damages (by leaks, accidents, etc.)	167 48		
Miscellaneous accounts	136 63		
		4,532 69	
CC. Total maintenance charged 1901		$114,395 98	
GG. (Including same under "Construction") Services, meters, repairs, etc. (labor and material charged to consumers, and included in "Receipts" under "D")		16,070 11	
Gross expenditures charged 1901			$130,466 09
DD. BALANCE divided as follows			
Amount used for construction		$12,703 70	
Cash available for sinking fund		94,097 81	
Value city use of water, charged to City of Springfield (special acct.)		32,712 13	
Inventory of materials, tools, etc., on hand Dec. 10, 1901		13,063 29	
			152,576 93
EE. Total (in balance with receipts)			$283,043 02

* No cash income derived, but estimated amounts charged and credited in ledger and annual report.

CONSTRUCTION.

Receipts (credited).

R.	Balance from previous year	800 00
	Amount from maintenance receipts	12,703 70
	Amount from sales and transfers of real estate and material in 1901 to the credit of construction account of previous years	1,165 10
S.	Bonds issued	00 00
T.	Appropriations from tax levy (see *note* under "Financial")	00 00
U.	Other sources (included with "D" under maintenance receipts)	.....
V.	Total available credited 1901	$13,868 80

Expenditures (charged).

FF.	Extension, distribution mains		$5,174 62
GG.	Extension, services (paid for by consumers, see "Maintenance")		.....
HH.	Special: —		
	(*a*) Hydrant extension	$37 04	
	(*b*) Water rights—Jabish brook (legal expenses on account of "*Ludlow Reservoir Improvement*" in 1890 and 1891)	611 09	
	(*c*) Experimental filtration at Ludlow reservoir	7,645 36	
	(*d*) Miscellaneous (standpipes, city meters, etc.)	400 69	
			8,694 18
II.	Total construction charged 1901		$13,868 80
	(Less $1,165.10 credited,—per receipts,—$12,703.70 *net*.)		
JJ.	Balance		00 00
KK.	Total (in balance with receipts)		$13,868 80

GENERAL STATEMENTS.

W.	Net cost of works, December 10, 1901,			$2,141,263 26
X.	Net bonded debt, December 10, 1901,			$1,475,000 00
Y.	Value of sinking fund, December 10, 1901,			$541,046 80
Z.	Rate of interest on bonded debt: —			
	7 per cent. on	$800,000 00		
	6 per cent. on	200,000 00		
	4 per cent. on	350,000 00		
	3½ per cent. on	125,000 00		
	Average rate = 5.85 per cent. on		$1,475,000 00	

CONSUMPTION.

1.	Total population at date (assessors' estimate :=same as U. S. census, 1900), .	62,059
2.	Estimated population on lines of pipe at date,	54,000
3.	Estimated population supplied at date, .	50,000
4.	Total number gallons consumed for year (estimated), ...	*about* 2,920,000,000 gallons.
5.	Passed through domestic meters,	433,077,915 gallons.*
6.	Passed through manufacturing meters, (or 14.83 per cent.)*	
7.	Average daily consumption (estimated), *about*	8,000,000 gallons.
8.	Gallons per day to each inhabitant (estimated) (1), ...	129
9.	Gallons per day to each consumer (estimated) (3), ...	160
10.	Gallons per day to each tap (estimated) ("Distribution," 22), ...	797

DISTRIBUTION.

MAINS.

1.	Kind of pipe used :—wrought-iron cement-lined (formerly used by private aqueduct company and by city) ; — wrought-iron—for small and temporary mains,— and cast-iron (used by city at present).	
2.	Sizes ; — from one to 36 inches.	
3.	Extended during year (added to pipe table),	10,830 feet.
4.	Discontinued during year (deducted from pipe table), ...	2,722 feet.
5.	Total now in use, ...	146.22 miles.
6.	Cost of repairs per mile, ...	$5.89+
7.	Number of leaks per mile, ... (Total leaks during year=43.)	0.29+
8.	Small distribution mains,— less than 4 inches in diameter,— total length, ...	40,935 feet.
9.	Hydrants added during year (public), net, .	9

* ☞ As meters are set at *option of consumer*,—and therefore mostly on "frugal supplies,"—the total consumption averages are but slightly affected thereby!

10.	Number of public hydrants now in use,		964
11.	Stop gates added during year (public and private), net,		35
12.	Number of stop gates now in use,		1,924
13.	Small stop gates, less than 4 inches — total,		371
	(a) High service,	256	
	(b) Low service,	115	
14.	Number of blow-off gates,		89
15.	Range of pressure on mains at center for day and night: —		
	(a) High service,	100 to 120 pounds.	
	(b) Low service,	30 to 35 pounds.	

SERVICES.

16. Kind of pipe used; — lead (formerly used by private aqueduct company); — cement-lined wrought-iron, and tarred wrought-iron (formerly used by city); — galvanized wrought-iron, and cast-iron (used by city at present).

17.	Sizes from ½ to 6 inches.		
18.	Extended during year (in feet).	NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.	
19.	Discontinued during year (in feet).		
20.	Total now in use (in miles).		
21.	Service taps added (net),		270
22.	Number of service taps now in use,		10,034
23.	Average length of service,	(See note under 18, 19, 20.)	
24.	Average cost of service,		
25.	Meters added (including indicators) (net),		215
	(a) Meters added,	207*	
	(b) Indicators added,	8	
26.	Number of meters now in use (including indicators),		3,337*
	(a) Meters (on supply pipes),	3,190*	
	(b) Indicators (on elevators and motors),	147	
27.	Motors and elevators added (net),		24
	(a) Motors added, 18; discontinued, 3;	15	
	(b) Elevators added, 10; discontinued, 1;	9	
28.	Number of motors and elevators now in use,		254
	(a) Motors,	91	
	(b) Elevators,	163	

*See foot-note under "Consumption."

SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners:—

GENTLEMEN:—I herewith submit the twenty-eighth annual report of the Superintendent, for the year ending November 30, 1901.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE, GATES AND HYDRANTS ADDED.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Feet of Pipe laid—High service,	8,555	26	0	8,581
Feet of Pipe laid—Low service,	113	1,856	0	1,969
Totals laid, 1901, ...	8,668	1,882	0	10,550
Added to tables (account previous years, changes, etc.),	280	0	0	280
Totals added, 1901, . . .	8,948	1,882	0	10,830
Gates set—High service, . .	16	0	20	36
Gates set—Low service, . . .	2	0	3	5
Totals set, 1901, ...	18	0	23	41
Fire Hydrants set—High service,	10	0	0	10
Fire Hydrants set—Low service,	0	0	0	0
Totals set, 1901, ...	10	0	0	10

MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

Number.	Totals.
Feet of Pipe—High service,	26
Feet of Pipe—Low service,	2,696
Total, 1901,	2,722
Gates—High service,	3
Gates—Low service,	3
Total, 1901,	6
Fire Hydrants—High service,	0
Fire Hydrants—Low service,	1
Total, 1901,	1

There are now in use 146.22 miles of supply and distribution mains, a net addition of 1.53 miles the past season.

Four hundred and ninety-nine service taps have been made, a net addition of 270 in use. The total number now connected with the system is 10,034.

RAINFALL.

The table which follows shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory, and the City Engineer's office in this city, during the year ending November 30, 1901.

MONTHS.	Belchertown.	Ludlow Reservoir.	U. S. Armory.	Engineer's Office.
	Inches.	Inches.	Inches.	Inches.
December, 1900,	2.70	2.71	2.76	2.75
January, 1901,	1.49	1.79	1.74	1.28
February, 1901,	.92	.69	.63	.39
March, 1901,	6.01	6.00	5.92	5.27
April, 1901,	4.13	5.93	6.80	7.03
May, 1901,	5.09	5.32	5.26	6.83
June, 1901,	.93	1.23	1.23	1.62
July, 1901,	2.81	3.37	5.11	4.75
August, 1901,	6.53	7.64	7.74	8.24
September, 1901,	3.39	3.28	3.10	3.41
October, 1901,	4.70	4.84	4.31	4.10
November, 1901,	1.56	1.57	1.37	1.41
Totals,	40.26	44.37	45.97	47.08
Mean,	3.35	3.70	3.83	3.92

MAINTENANCE.

Forty-three leaks have been repaired this season, an average of $\frac{23}{100}$ to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

LEAKS, 1901.

KIND AND SIZE OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	TOTALS.
Cement-lined & Wrought-iron,	2	1	1	2	5	0	2	0	0	1	0	0	14
Cast-iron,	0	0	8	3	4	3	3	6	0	1	1	0	29
Totals,	2	1	9	5	9	3	5	6	0	2	1	0	43

INVENTORY.

The amount of stock, tools, and fixtures on hand December 1, 1901, was $13,063.29.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

SPRINGFIELD, MASS., December 30, 1901.

BOARD OF WATER COMMISSIONERS, December 30, 1901.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

WATER PIPE LAID AND TAKEN OUT IN 1901.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET. High Service.	Low Service.	Totals.
Pipe Laid by City.					
Calhoun street, east from 6″. (See S. R.-12,879)	1¼	Wrought-iron.	...	33	
Dupont place, west from Clayton avenue. (See S. R.-12,766)	1¼	"	191	....	
Railroad street, extension east to 6″. (See S. R.-12,974)	1¼	"	...	75	299
Mill street, south from Central. (See S. R.-12,560)	1½	"	467	....	467
Total wrought iron laid by city	....	.....	658	108	766
Chestnut street, I. O., completion at Worcester (south)	4	Cast-iron.	15	....	
HYDRANTS, sundry streets as follows:					
Cherry street	4	"	3	....	
Chestnut street	4	"	3	....	
Emery street (2)	4	"	14	....	
Holyoke street	4	"	4	....	
Ludlow Mfg. Co.'s new street "C"	4	"	14	....	
Market street	4	"	2	....	
Oak street, I. O.	4	"	14	...	
Ridgewood terrace	4	"	3	....	
Seventh street	4	"	5	...	
Sharon street	4	"	...	3	
Worcester street, I. O	4	"	9	....	
Worthington street	4	"	...	2	
Ridgewood terrace extension (account setting hydrant)	4	"	12	....	
Wareham street, north from Orange. (See S. R.-12,651-2-3)	4	"	456	....	
Wareham street, extension. (See S. R.-12,788)	4	"	96	....	
Wareham street, completion at Grand avenue	4	"	43	....	698
Alderman street, extension east from Ventura avenue. (See S.R.-12,741)	6	"	204	....	
Boston road, extension to Ashby street. (See S.R.-12,714-12,881)	6	"	302	....	
Dickinson street, Parker avenue to Kenwood park. (See S. R.-12,668)	6	"	273	....	
Franklin street, at Liberty (account setting hydrant)	6	"	34	....	
Franklin street, Chestnut to Charles (changed from *low* service)	6	"	280	....	
Franklin street, at Chestnut (east) (connecting hydrant branch with 6″). (See S. R.-12,823-A)	6	"	15	....	
Grand avenue, east from Revere street (See S. R.-12,634)	6	"	156	....	

WATER PIPE LAID, ETC., IN 1901—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET. High Service.	Low Service.	Totals.
Grand avenue, completed to White street. (See S.R.-12,866)	6	Cast-iron.	400	....	
Hunter place, north from State street (See S. R.-13,041)	6	"	457	....	
HYDRANTS, sundry streets as follows:					
Boston Road	6	"	8	....	
Franklin street	6	"	8	....	
Grand avenue	6	"	7	....	
Hunter place	6	"	6	....	
Irvington avenue	6	"	9	....	
Sumner avenue	6	"	9	....	
Warwick avenue	6	"	11	....	
Irvington avenue, south from Sumner. (See S.R.-13,068)	6	"	390	....	
Ludlow Mfg. Co.'s new street "A," west from Parker (not yet named)	6	"	455	....	
Ludlow Mfg. Co.'s new street "B," first south from "A" (not yet named)	6	"	183	....	
Ludlow Mfg. Co.'s new street "C," second south from "A" (not yet named)	6	"	250	....	
Market street, north from Townsley avenue (See S.R.-12,855)	6	"	101	....	
Oak street, I. O., old Bay road to High street. (See S.R.-12,644-5)	6	"	734	....	
Ozark street, completed to Grand avenue	6	"	130	....	
Pasco street, I. O., extension south to opposite house No. 53. (See S. R.-12,712)	6	"	218	....	
Springfield street, extension beyond Gladwood avenue	6	"	336	...	
Sumner avenue, White street to Irvington avenue	6	"	324	....	
Worcester street, I. O., extension east to near Lyons. (See S.R.-12,709)	6	"	776	....	
Worcester street, I. O., east from Chestnut. (See S. R.-12,985)	6	"	303	....	6,379
North Main street, from former 8" cast-iron at Carew to 8" gate near Bancroft (north)	8	"	....	1,780	
NOTE:—Distances and descriptions in North Main street to Wason avenue revised and corrected in pipe tables, account of errors in tables in previous years.					
Summer street, at Federal (east)	8	"	26	....	
Sumner avenue, extension east to near White street. (See S.R.-12,643)	8	"	725	....	
Sumner avenue, extension east to White street	8	"	380	....	
Wason avenue, opposite Baush Machine Tool Co.'s shops	8	"	....	76	2,987
Total cast-iron laid by city			8,203	1,861	10,064
Total wrought-iron laid by city (forward)			658	108	766
Total amount added, 1901			8,861	1,969	10,830

WATER PIPE LAID, ETC., IN 1901—CONCLUDED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Length in Feet. Low Service.	Totals.
Pipe Taken Out or Abandoned.					
Howard street, Water to railroad...	2	Cement-lined.	....	320	
Prospect place, south from Prospect street (P).(S.R.-12,193).....	2	Wrought-iron.	....	182	502
Franklin street, Chestnut to Charles (changed to *high* service).....	6	Cast-iron.	....	280	280
North Main street. "from 8″ cast-iron at Carew to near Bancroft (north)," etc.—*actually relaid*....	8	Cement-lined.	....	1,759	
	8	Cast-iron.	....	21	
North Main street:—Erroneous *surplus* of the 2,100 feet wrongly in pipe tables under "from 8″ cast-iron at Carew to near Bancroft (north)," etc., after revising and correcting distances and descriptions in pipe tables, and transferring 283 feet of same to section south from Wason avenue (account of errors in tables in previous years).....	8	Cement-lined	....	58	1,940
Summer street, at Federal (east).....	8	Cast-iron.	26	....	
Wason avenue, at Baush Machine Tool Company's shops.....	8	Cement-lined.	....	76	
Total amount taken out or abandoned, 1901.....			26	2,696	2,722
Net addition to tables, 1901.....			8,835	-727	8,108

MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1901.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st.	6	....	....	....	940	
do. Plainfield st. to Fisk ave.	6	....	....	....	719	1,659
Acushnet ave., east from Main st.	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Wilbraham ave.	6	....	....	2,253	....	
do. Wilbraham ave. to 4″ at Hickory st.	8	....	....	421	....	
do. at Hickory (west)	4	....	....	4	....	2,678
Alderman st., Dickinson to near Sorrento ave	6	....	....	992	....	992
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st.	6	....	...	....	762	762
Alfred st.	6	....	....	551	....	551
Allen ave., no. from Allen st. (P)(S. R.-9,209)	2	200	....	....	....	
do. north from private pipe	2	86	....	....	....	286
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487	....	5,417
Allendale st.	6	....	....	....	707	707
Amherst st.	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st.,	6	....	....	....	457	457
Arch st., North Main to east line of Conn. River R. R. location	6	....	....	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	...	
do. from 8″ to near Summer st.	1	81	....	....	....	
do. north from 8″ (for S. R.-10,661)	2	92	....	....	...	
do. Summer to Van Horn reservoir	8	....	...	5,571	....	
do. Van Horn reservoir to Springfield st.	12	....	...	2,431	....	9,813
Armory st. ave., east from Armory st.	6	....	....	520	....	520
Armory st. court, south from Armory st. ave.	6	....	....	266	....	266
Ashley st.	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Atwater terrace, west from Rimmon ave	6	....	....	660	....	660
Auburn st.	6	....	....	....	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. at Maple st.	6	....	....	....	57	
do. east from 6″ at Maple st.	4	....	380	....	....	
do. east from cement-lined	4	....	....	....	416	853
Bancroft st., North Main to 8″ at Chestnut.	6	...	....	....	1,511	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st. (P) (S. R. -5,495)	1¼	....	193	....	....	193

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bay st., St. James ave. to Thompson st	8	1,275	....	....	....	
do. Thompson to Oak Grove cemetery	8	....	....	3,793	....	5,068
Bay st. ave., south from Bay st. (see S. R.-11,664)	1¼	150	....	....	....	150
Beacon st., Eastern ave. to Colton st	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beaudry st., I. O., south from Main	6	....	....	498	....	
do. south from 6″ (P) (S. R.-10,768)	1	310	....	....	....	808
Beaumont st	6	....	....	726	....	726
Beech st	6	....	....	560	....	560
Beechwood ave., Sumner to Spruceland	6	....	....	565	....	565
Belgrade place, west from Walnut st	6	....	....	225	....	
do. west from 6″	4	....	....	150	....	375
Bellevue avenue (new location)	8	....	....	1,645	....	1,645
Belmont ave., Fort Pleasant to Sumner	8	....	....	5,383	....	
do. Sumner to Forest	8	....	....	42	....	5,425
Belmont court, south from Belmont ave. (see S.R.-12,367-12,368)	1¼	207	....	....	....	207
Benton ave., east from Benton st	6	....	....	15	....	
do. east from 6″	2	451	....	....	....	466
Benton st., State to 6″	4	....	....	1,175	....	
do. from 4″ to Wilbraham road	6	....	....	418	....	1,593
Berendo ave	6	....	....	419	....	419
Berkeley st., Princeton to Monmouth	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir, "Main No. 1")	24	—	....	...	....	
do. Myrtle to Oak	6	....	....	703	....	703
Beverly st	6	....	....	252	....	252
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st	6	....	....	....	168	
do. Douglas st. to Thomas	6	....	....	....	302	753
do. Wason to Grace st	8	....	....	726	....	
do. south from Grace st	8	....	....	12	....	
do. Alfred st. to Douglas st	6	....	....	304	...	
do. south from Douglas st	6	....	....	176	....	1,218
Bliss st., Main to railroad	6	....	....	....	1,287	
do. railroad to Mechanics Row	2	....	93	....	....	1,380
Bloomfield st., west from Earl	6	....	....	265	....	
do. west from Pasadena ave	6	....	...	22	....	287
Bond pl., so. from Bridge st. (P) (S. R.-6,033)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6″	4	....	....	183	....	201
Boston ave., south from Boston road (P) (S. R.-8,171)	1¼	172	....	....	....	172
Boston road, east from Berkshire st. (see S.R.-12,314)	6	....	....	130	....	
do. Jasper st. to Ashby	6	....	....	875	....	1,005
Bowdoin st., St. James ave. to Worth'ton st.	4	....	....	1,202	....	
do. Worthington to Ingersoll grove	6	....	....	833	....	2,035
Bowles st., Catharine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st	6	....	....	....	934	934
Brace st	6	....	....	378	....	378
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	....	67

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bridge st., Water to Chestnut	6	....	....	....	1,921	1,921
do. Water to Main	6	....	....	873	....	
do. east from Main	6	....	....	211	....	
do. east from Dwight	6	....	....	135	....	1,219
Brightwood ave, west from Plainfield st.	6	....	....	....	176	176
Broad st., west from Main	8	....	1,001	....	....	
do. from 8″ to Hanover	4	....	....	....	52	1,053
Brookline ave	6	....	....	....	660	660
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. from cement-lined to Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham place	1½	338	....	....	....	338
Buena Vista Plaza, west from Long Hill st. (P.) (S. R.-10,533)	2	423	....	....	....	423
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6″	4	....	....	....	346	1,515
do. crossing to Everett (proposed st.)	4	....	....	....	197	197
Byers st	6	1,452	....	....	....	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	
do. east from 6″ (see S. R.-12,879)	1¼	....	33	....	....	1,148
do. east from North Main	6	....	....	16	....	16
Cambridge st	6	....	....	1,601	....	1,601
Carew place, north from Carew st	4	....	....	....	166	166
Carew st., Main to North	16	....	875	....	....	
do. at North (east)	16	....	....	....	5	
do. from 16″ at North (east) to Chestnut	8	....	....	....	799	
do. Chestnut to Arbor	6	....	....	....	951	2,630
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	—	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	....	—	....	
do. east from Armory	6	....	....	11	....	30
Carew st. ave., north from Carew st. (P) (S. R.-12,009)	1½	323	....	....	....	323
Carlisle ave., south from Wilbraham road	6	....	....	692	....	692
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	628	....	628
Catharine st, State to Dartmouth	12	....	....	1,961	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. Pine to opposite No. 15	2	390	....	....	....	1,644
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	6	....	....	846	....	
do. from 6″ to Cedar	2	360	....	....	....	1,206
Central st., east from Main	4	....	....	....	482	
do. from 4″ to 6″ cast-iron at Maple	6	....	937	....	....	
do. at Maple (west)	6	....	....	....	22	1,441
do. east from Main	8	....	....	579	....	
do. Maple to Mill	8	....	....	4,035	....	4,614
Central st. ave., Central st. to Foster court.	6	....	....	292	....	292
Chapel st., east from Eastern ave	6	....	....	411	....	411
Chapin pond, pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239
Charles st., Franklin to Liberty	6	....	....	....	650	650
do. south from Liberty	4	....	....	204	....	204
Charter ave., west from Oak st	2	370	....	....	....	370
Chase ave., east from Fort Pleasant	6	....	....	622	....	622
Cherrelyn ave., south from Phœnix	6	....	....	344	....	344
Cherry st., south from Central	6	....	....	1,130	....	
do. from 6″ to Mill st. (see S. R.-12,558)	1¼	380	....	....	....	1,510
Cherryvale ave	6	....	....	731	....	731
Chester st., south from Central (P) (S. R.-6,931)	2	246	....	....	....	
do. south from 2″ (P) (S. R.-6,931)	1¼	39	....	....	....	285
Chestnut st., brook to 20″ cast-iron at Jefferson ave	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. East Taylor to Edwards	6	....	....	....	1,363	
do. south from Edwards	3	....	208	....	....	
do. from 3″ to State	4	....	625	....	....	8,786
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	26	....	
do. Carew to 12″ near Worth'ton (north)	16	....	....	3,185	....	
do. from 16″ to Worthington	12	....	....	63	....	
do. Worthington to Harrison ave	12	....	....	873	....	
do. Harrison ave to 6″	8	....	....	644	....	
do. from 8″ to State st	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	
do. completing at Worcester (south)	4	....	....	15	....	384
Chicopee Falls road, Ludlow, west from 30″ main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave., south from Pynchon st	4	....	....	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Clayton ave., Phœnix to Dupont place	6	....	....	1 158	....	1,158
Cleveland st	6	....	....	1,105	....	1,105
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st	4	....	....	504	....	504
Cliftwood ave	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
Clyde st., west from Plainfield	6	....	....	....	316	316
Coleman st., Boston r'd to beyond Embury st	6	....	....	1,036	....	1,036
College ave., State st. to Shattuck ave	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colonial ave.	6	....	....	850	....	850
Colton st., Wilbraham road to Beacon st	6	....	....	1,680	....	1,680
Columbia terrace, north from Liberty st	6	....	....	246	....	246
Columbus ave., north from Park ave	4	....	....	308	....	
do. north from 4″ (see S. R.-12,137)	1	20	....	....	....	328
Commonwealth ave., Walden st. to beyond Washington	6	....	....	1,326	....	1,326

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Concord st., south from Rimmon ave	2	295	....	....	....	295
Concord terrace, no. from Wilbraham road	2	202	....	....	....	202
Congress st., Main to 4″, near Chestnut	6	....	....	....	1,533	
do. from 6″ to Chestnut	4	....	....	....	60	1,593
Conn. River R. R., east line of location to east line of Plainfield st. (under tracks, connecting Arch and Washburn sts)	6	....	....	....	226	226
Continental ave., south from Sumner	6	....	....	390	....	390
Cook's ave., Bridge st. to North Church ave.	4	....	....	....	126	126
Cornell place, north from Cornell st	1¼	106	....	....	....	106
Cornell st	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck ave	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P) (S. R.-7,681-8,916)	1¼	169	....	....	....	
do. Walnut st. to Melrose	6	....	....	296	....	
do. north and thence east from Melrose st.	6	....	....	492	....	957
Court st., Main to 8″ at Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Crescent st., north from Springfield	6	....	....	384	....	384
Crescent terrace (south roadway) at Fort Pleasant ave.	6	....	....	26	....	26
Crosby st., west from Walnut	2	315	....	....	....	315
Cross st., west from Willow	1¼	....	142	....	....	
do. at Willow (east)	6	....	....	12	....	
do. from 6″ to Maple st	4	....	....	605	....	759
Crystal ave	6	....	....	962	....	962
Cypress ave., at Cypress st	4	....	....	....	9	
do. north from 4″ at Cypress st	3	....	210	....	....	219
Cypress st	6	....	....	....	720	720
do.	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave	12	....	....	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	....	....	479	....	479
Davis st., Ludlow, south from Stebbins	1¼	237	....	....	....	237
Dawes st	6	....	....	1,250	....	1,250
Dawson ave	2	401	....	....	....	401
Demond ave	6	....	....	....	922	922
do. at Fisk ave	6	....	....	2	....	2
Denver st., south from Boston road	6	....	....	960	....	960
Dexter st., George to Knox (P) (S. R.-5,322)	2	719	....	....	....	719
Dickinson st., from opposite No. 34 to Oakland st	8	....	....	1,600	....	
do. Oakland st. to Sumner ave	6	....	....	2,063	....	3,663
Donald st., at North Main	6	....	....	13	....	13
Dorchester st	6	....	....	620	....	620
Douglas st., Birnie ave. to North Main	6	....	....	582	....	
do. east from North Main	6	....	....	561	....	1,143
Dresden ave	6	....	....	805	....	805
Dupont place, west from Clayton ave. (see S. R.-12,766)	1¼	191	....	....	....	191
Dwight st., State to Worthington	6	....	....	....	1,851	
do. crossing sewer at Worthington (north)	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Dwight st., State to Lyman (less 8″ crossing sewer at Worthington, north)	10	....	....	2,322	....	
do. crossing sewer at Worthington (north)	8	....	....	28	....	2,350
Dymon st	6	....	....	525	....	525
Eagle st., North Main to Chestnut	6	....	....	596	....	596
Earl st., Johnson to Bloomfield	2	299	....	....	....	299
East Court st	4	....	....	584	....	584
Eastern ave., in State st., at 24″ main	8	....	....	18	....	
do. from gate at State st. 24″ main to Tyler st	12	....	....	1,568	....	
do. Tyler street to Pendleton ave	12	350	....	....	....	
do. Pendleton ave. to Melrose st	8	....	....	2,509	....	4,445
East Hooker st., east from North Main	6	....	....	....	361	361
do. east from North Main	4	....	....	14	....	14
Edgeland ave., west from Fort Pleasant	6	....	...	488	....	488
Edwards st	4	....	....	....	737	737
Elizabeth st., south from Berkshire	1½	326	....	....	....	326
Elliott st	6	....	....	....	1,103	1,103
Elm st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	15	
do. west from Water (P) (S. R.-5,748)	1¼	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	....	....	....	810	810
Emery st	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to 6″ cast-iron near Chestnut	6	....	1,625	....	....	
do. from 6″ cement-lined to Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,440	...	1,440
Euclid ave	6	...	....	1,203	....	1,203
Everett st., Chestnut to near Cass	6	....	....	....	1,186	
do. from 6″ to Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,538
Fairbanks ave., north from Worthington st.	4	....	....	....	261	261
Fairfield st., north from Garfield	6	....	....	934	....	934
Fairview st., east from Groveland ave	6	....	....	96	....	96
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry street, east from Main	6	....	....	....	30	
do. east from 6″	4	....	459	....	....	
do. from 4″ to Chestnut	6	....	....	....	1,083	1,572
Fire reservoirs, sundry streets	4	....	....	....	31	
do. sundry streets	6	....	....	....	86	117
Firglade ave., Sumner to Pineywoods	6	....	....	1,050	....	1,050
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12″ Grace st. line	8	....	....	205	....	941
Five Mile pond pumping station:—						
Suction for small pump	10	....	....	6	....	
" " " " (balance left in).	12	....	....	28	....	
Discharge for small pump	12	....	....	38	....	
Suction for large pump	20	....	....	293	....	
Discharge for large pump	12	....	....	15	...	
Discharge line, connecting pumps with Ludlow Main No. 1	16	....	....	2,755	....	
For fire hydrant at pump house	4	....	....	25	....	3,160

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals. in Feet.
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. from 2″ to Walnut	1	88	....	....	....	1,966
Florentine gardens	6	....	....	594	....	594
Florida street, Bay to 6″ cast-iron at Worthington (south)	6	1,520	....	....	....	
do. at Worthington (south)	6	....	....	14	....	
do. Worthington to Ingersoll grove	6	....	....	850	....	2,384
Forest ave., Belmont to Groveland	6	....	....	2,104	....	2,104
Forest park, from Sumner ave. (P) (S. R.-9,099)	6	....	....	2,610	....	
do. for hydrants (P) (S. R.-9,099)	4	....	....	30	....	2,640
Forest st	6	....	....	843	....	843
Fort st	6	....	....	....	715	715
do. west from Main (P) (S. R.-6,490)	4	....	....	76	....	76
Fort Pleasant ave., Mill st. to junction Belmont ave	12	....	....	167	....	
do. Belmont to Sumner	8	....	....	2,755	....	2,922
Foster court	6	....	....	762	....	762
Franklin st., Main to Chestnut	6	....	....	....	1,613	
do. east from Charles	1¼	....	131	....	....	1,744
do. Main to Chestnut	8	....	....	1,783	....	
do. at Chestnut (east) (north from hydrant branch to 6″ main)	6	....	....	15	....	
do. Chestnut to Charles	6	....	....	280	....	
do. west from Cass	6	....	....	514	....	
do. east from Cass (P) (S. R.-6,651)	1¼	128	....	....	....	
do. east from Webster	6	....	....	83	....	
do. near Webster (east) (connecting 6″ and 2″)	1	4	....	....	....	
do. from 6″ to Liberty	2	1,340	....	....	....	
do. at Liberty (for hydrant, only)	6	....	....	34	....	3,981
Fremont st	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner ave	8	....	....	329	....	329
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12″	8	....	399	....	....	
do. west from 8″	6	....	150	....	....	
do. from 6″ to Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st	8	....	....	189	....	189
Garfield st	6	....	....	1,544	....	1,544
Genesee st., at Franklin	1¼	38	....	....	....	
do. north from 1¼″	6	....	....	194	....	232
George st., south from Pine (P) (S. R.-4,979)	2	354	....	....	....	
do. from private 2″ to Maple	2	336	....	....	....	690
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave., crossing to Fisk ave	12	....	....	390	....	1,080
Granada terrace	6	....	....	1,189	....	1,189
Grand ave., White st. to Revere	6	....	....	556	....	556
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6″	4	....	221	....	....	
do. from 4″ to Emery st	6	....	....	....	14	593

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Greene st., Hancock to Eastern ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. from 6″ to Chestnut	4	....	....	....	337	1,608
Grosvenor st	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do. at North Main (east and west)	6	....	....	32	....	32
Groveland ave., Forest to Fairview st	6	....	....	509	...	509
Grover st	6	....	....	1,380	....	1,380
Gunn square (north roadway) east from Northampton ave. (see S. R.-11,512)	1¼	100	....	....	....	
do. (south roadway) east from Northampton ave	1¼	142	....	....	...	242
Hall st	6	....	....	1,019	....	1,019
Hampden st., at Main	12		....	....	28	
do. from cast-iron to Water	12	....	672	....	....	700
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Chestnut to Myrtle	4	750	....	....	....	
do. Myrtle to 6″	4	....	....	662	....	
do. from 4″ to Oak st	6	....	....	35	....	1,447
Hampshire street, I. O	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	...	
do. Florence to Central	6	....	....	1,126	....	
do. at Central (south)	8	....	....	3	....	
do. south from 8″ at Central	4	....	....	225	....	
do. south from 4″	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	513	513
do. Gardner to York (see note)	8	....	....	789	....	789
(NOTE:—Emergency connection at York st. with 6″ low service main in that st)						
Harriet st., Chestnut to North	6	....	....	....	410	410
Harris road, Ludlow, north from North st	6	....	....	1,763	....	1,763
Harrison ave., Main st. to Dwight	6	....	....		649	649
do. Main st. to Chestnut	12	....	....	895	...	
do. east from Main st. (for Republican blk)	6	....	....	25	....	
do. west from Dwight (short line)	6	....	...	173	....	1,093
Harvard st., Yale to Cornell	6	....	....	1,663	....	1,663
Hawley st	6	515	....	...	....	515
Hawthorn place, Sumner ave. to Park ave	6	....	....	851	....	851
Hawthorn st., Spruce to Hancock	4	....	...	568	....	568
Hayden ave	4	....	....	1,095	....	1,095
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood ave., south from Liberty st. (P) (S. R.-6,720)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. Walnut st. main to Walnut st. east line	6	125	....	....	....	
do. Walnut st. east line to Alden	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. at Woodbine ave. (east)	4	....	....	11	....	
do. east from 4″ at Woodbine ave	3	799	....	....	....	
do. from 3″ to Carlisle branch (east) (see S. R.-11,027)	1¼	1,501	....	....	....	
do. east from 1¼″ (see S. R.-11,028)	1	13	....	....	....	
do. south from Wilbraham road (see S. R.-12,284-12,285)	1¼	108	....	....	...	6,208

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
High st., Maple to School	6	....	....	807	....	
do. School to Walnut	6	1,854	....	....	....	2,661
Highland st., Allen to Orange	6	...	....	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P) (S. R.-8,946)	2	....	120	....	....	120
Hobson st., south from Berkshire	1¼	192	....	....	....	192
Hollywood st., east from Forest ave	6	....	....	18	....	18
Holyoke st	6	....	...	...	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	...	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard court, south from Howard st. (see S. R.-8,662)	1¼	....	212	....	....	212
Howard place, south from Howard st	4	....	....	....	160	160
Howard st., Main to Water	6	....	....	...	994	
do. Water to railroad	6	....	362	....	....	
do. west from railroad	2	....	100	....	....	1,456
do. west from Water	6	....	....	42	....	
do. from 6″ to railroad	4	....	....	304	....	346
Howard st., Ludlow, east from North (P) (S. R.-5,629)	1¼	441	...	....	...	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hunt terrace, north from Allen st	4	....	....	235	...	
do. north from 4″	1¼	108	....	.	....	343
Hunter place, north from State st	6	....	....	457	....	457
Hyde ave., east from Plainfield st	6	....	....	.	17	17
do. at Fisk ave	4	....	....	7	....	
do. from 4″ to Plainfield st	6	....	...	930	....	937
Hydrants, sundry streets	4	....	952	....	1,557	
do. sundry streets	6	....	....	....	407	2 916
do. sundry streets	4	....	....	3,819	....	
do. sundry streets	6	....	....	3,097	...	
do. sundry streets	8	....	....	169	....	7,085
Indian Orchard road (see Ludlow reservoir, "Main No. 1")	24	—	....	...	....	
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
Irvington ave., south from Sumner	6	....	....	390	....	390
James st	4	....	....	959	....	959
Jasper st	6	....	....	1,079	...	1,079
Jefferson ave., at North Main st	8	....	....	....	10	
do. from 8″ to North st	12	....	....	....	876	
do. North st. to Chestnut	16	....	482	....	....	1,368
do. at North Main st	12	....	....	15	....	
do. from 12″ to North st	6	....	....	792	....	807
John st., west from Plainfield	4	....	....	...	259	
do. from 4″ to Fulton	6	...	....	....	419	678
Johnson st	6	....	....	1,930	...	1,930
Keith st	6	....	....	1,122	....	1,122
Kenwood park	6	....	....	800	....	800
Kibbe ave., north from Worthington st	6	....	202	....	....	
do. from cement-lined to Summer st	6	....	....	....	38	240
do.	8	....	....	240	....	240

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	....	
do. Wilbraham ave to Westford	6	....	....	523	....	3,338
King st. ave., King st. to 1″ at Lebanon	2	367	....	....	....	
do. at Lebanon st	1	7	....	....	....	374
Knox st., Dexter to beyond Smith (P) (S. R.-5,464)	2	674	....	....	....	
do. south from 2″ (see S. R.-12,534)	1	68	....	....	....	742
Ladd st	6	....	....	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave, west from Plainfield st	6	....	....	....	674	674
Lebanon pl., so. from King st. (P) (S. R.-5,016)	1¼	336	....	....	....	336
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lenox st	6	....	....	447	....	447
Lexington ave	6	....	....	....	666	
do. (south side) east from Chestnut st. (P) (S. R.-4,880)	2	....	195	....	....	861
Leyfred terrace, north from Belmont ave	6	....	....	593	....	593
Liberty st., east from Main	6	....	....	....	1,195	
do. from 6″ to Chestnut	4	....	....	....	276	
do. Chestnut to Charles	6	....	....	....	319	1,790
do. Main to Heywood ave	6	....	....	4,037	....	
do. Heywood ave. to Armory st	8	....	....	1,950	....	
do. at Armory (north)	6	....	....	24	....	
do. south from Phœnix ave	8	....	....	164	....	
do. Phœnix ave. to Carew st	8	....	....	1,058	....	7,233
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from 6″ cast-iron	4	....	1,266	....	....	
do. from 4″ cement-lined to Cass	4	....	....	....	16	1,316
Litchfield st., Belmont ave. to Garfield st	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. from cement-lined to Mill	12	....	....	25	....	757
Logan street, at Olive (for flush gate)	6	....	....	10	....	10
Lombard st	4	....	....	....	658	658
Long Hill st., South st. to Cherryvale ave	8	....	....	2,867	....	
do. Cherryvale ave. to opposite E. H. Barney's house	2	1,431	....	....	....	4,298
Loring st., near Main (dead end) to 8″ at Water	6	....	....	....	678	
do. at Water	8	....	....	....	9	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372
Ludlow Mfg. Co.'s new street "A," west from Parker (not yet named)	6	....	....	455	....	455
Ludlow Mfg. Co.'s new street "B," first south from "A" (not yet named)	6	....	....	183	....	183
Ludlow Mfg. Co.'s new street "C," second south from "A" (not yet named)	6	....	....	250	....	250

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 1.						
From gatehouse to Higher brook as follows:—Crossing highway, thence near and southerly of same through private property, thence recrossing highway and northerly of same through private property to highway at brook.....	24	....	....	3,736	....	
Higher brook to Federal st. as follows:—Following highway to near Ludlow village, thence westerly, north of Athol branch of B. & A. R. R.—crossing over Chicopee river at "Indian Leap";—thence under tracks of railroad, and south of same to Main st., I. O., just east of Cedar st.;—thence in Main st., I. O., westerly to Myrtle; in Myrtle st. southerly to Berkshire; in Berkshire st. (Indian Orchard road) to State st.; and in State st. to Federal.—(less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	....	....	
Federal to Spring, 1,773 feet (see State st)	16	—	....	....	....	
Spring to Main, 2,026 feet (see State st).	16	....	....	—	....	
Under Athol branch tracks of B. & A. R. R. (at Indian Orchard)...	24	....	....	135	....	
Under main tracks of B. & A. R. R. (at dry bridge in Indian Orchard road)	24	....	....	80	....	56,411
(NOTE:—Actual total length of Main No. 1 to Main st. is 60,210 feet, or 2,753 feet more than Main No. 2.)						
Supply Main No 2.						
From gatehouse, through dam	30	....	....	120	....	
From dam to intersection of Main No. 1 as follows:—Crossing highway, thence southerly of same and of Main No. 1, through private property to point of intersection in highway, about midway Ludlow center and Ludlow village	36	....	....	13,388	....	
From intersection of Main No. 1 to 24″ (in Carew st.) as follows:—Crossing highway at point of intersection, thence northerly of Main No. 1, through private property to Chicopee river, just below and west of Indian Orchard, and crossing same under bed of stream; thence through private property to Carew st., just west of St. James ave., and thence in Carew st. to 24″, near Prospect st., east.....	30	....	....	39,899	....	
From 30″ (in Carew st.) to Chestnut st.	24	....	....	2,380	....	
From Chestnut st. (in Carew st.) to Main —(See NOTE at end of Main No. 1.)—	20	....	....	1,670	....	57,457

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 2.						
(*Continued.*)						
At Chicopee river:—Auxiliary main for possible future use, laid across and under bed of stream, west of and parallel to Main No. 2—not connected at either end	30	....	....	300	....	300
At Reservoir.						
From distributing canal to cut-off basin	36	....	....	36	....	
Under cut-off dam	36	....	...	132	....	
At Cherry Valley drain gate	20	....	...	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8″ cast-iron	6	....	112	....	....	
do. from 6″ cement-lined to Spring	6	....	....	....	436	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st.	6	....	....	556	...	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, Sumner avenue to Pineywoods	6	....	....	1,205	....	1,205
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	10,163
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man hole)	6	....	....	24	....	9,712
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. at 24″ main (east)	8	....	....	24	....	
do. from 8″ at 24″ main (east) to Wilbraham line	6	....	....	3,930	....	4,464
MAIN SUPPLY PIPES—(see "Ludlow reservoir," and "Van Horn reservoir")	—	—	—	—	—	
Malden st., Allen to Grand ave	6	....	....	835	....	835
Manhattan st., Walnut to Eastern ave	6	....	....	1,120	....	1,120
Maple ave., east from Maple st	6	....	....	392	...	392
Maple st., State to Central	6	....	....	....	2,138	2,138
do. Stockbridge to Union	6	....	...	857	....	
do. Union to Central	8	....	....	1,235	....	
do. Central to Pine	6	1,753	....	....		
do. op. No 310 (connecting 6″ and 4″)	4	....	....	15	...	
do. opposite No. 310 to near Pine (east)	4	....	....	650	...	
do. near Pine (east) to Mill	4	756	....	....	..	5,266
Maple st., Ludlow, east from Harris road	6	...	....	432	...	432
Mapledell st	6	....	....	1,013		1,013
Maplewood terrace (north roadway)	6	....	....	1,378	....	1,378

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Marble st.	8	....	....	....	1,084	1,084
Marengo ave	6	....	....	1,381	....	
do. south side of Marengo park	2	590	....	....	....	1,971
Margaret st., Main to Water	6	...	....	....	884	
do. west from Water	4	....	....	...	566	1,450
do. west from Water	6	....	....	531	....	531
Marion st., Bay to McKnight (see Chapin st. for extension)	6	....	....	889	....	889
Market st., State to Harrison ave.	6	....	....	....	1,058	1,058
do. State to Sanford	6	....	....	298	....	
do. south from East Court (P) (S. R.-4,262)	3	90	....	....	....	
do. south from Townsley ave	4	....	....	95	....	
do. north from Townsley ave	6	....	....	101	....	584
Marlborough st., east from Norfolk	1¼	86	....	....	....	86
Massasoit st., Carew to Montmorenci	6	....	....	....	1,921	
do. north from Montmorenci (P) (S. R.-6,519)	1¼	....	158	....	....	2,079
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., at Chestnut	6	....	....	....	24	
do. from 6″ to Elliott st.	4	....	601	....	....	625
do. west from Elliott	6	....	....	362	....	362
Maynard ave., south from Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6″	2	....	353	....	....	388
Mechanics row, south from Bliss st.	2	....	69	....	....	69
Melrose st., Eastern ave. to Cottage	6	....	....	740	....	740
Mero st., Ludlow, east from Harris road	6	....	....	489	....	489
Merrick ave., King st. to 1″ at Lebanon	2	348	....	....	....	
do. at Lebanon st.	1	24	....	....	....	372
Merwin st.	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	354	....	354
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. south from Central (see S. R.-12,560)	1¼	467	....	....	....	
do. west from Cherry (see S. R.-12,558)	1¼	70	...	....	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	...	581	....	2,675
Milton st., I. O., south from Main	6	....	....	694	....	
do. south from 6″ (P) (S. R.-10,779 and 10,780)	1¼	203	....	....	....	897
Monmouth st., Berkeley to Yale	6	....	....	479	....	
do. Yale to Dorchester	4	....	....	683	....	1,162
Monroe st., east from Hancock	6	..	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	...	....	730	....	1,708
Monson ave., north from Greene st.	2	199	....	....	....	199
Montmorenci st.	6	....	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st.	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6″	4	....	....	....	63	
do. from 4″ to near North st.	6	....	....	....	580	
do. from 6″ to North st.	4	....	....	....	75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. from 6″ to Central	8	....	....	....	326	1,110

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Mulberry st., east from Maple (for S. R.-4,957)	2	445	....	...	....	
do. from 2″ to School (P) (S. R.-3,708)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Murray Hill ave., Liberty st. to 1″ at Franklin	6	....	....	651	....	
do. at Franklin (connecting)	1	15	....	....	....	666
Myrtle st	4	....	....	548	...	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Berkshire to Essex	8	....	....	627	....	627
National ave., south from Sumner	6	....	....	388	....	388
Nelson ave., King st. to 1″ at Lebanon	2	358	....	....	....	
do. at Lebanon st. (north)	1	17	...	....	....	
do. Lebanon st. to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Newland st., west from Plainfield	6	....	....	....	1,192	1,192
Noel ave., west from Highland st	6	....	....	813	....	813
Norfolk st., south from Wilbraham road	6	....	...	1,284	....	
do. south from 6″	1¼	38	..	....	....	1,322
North st., Carew to Jefferson ave	16	....	2,000	....	...	
do. south from Calhoun (for S. R.-8,713-9,555)	1¼	....	181	....	....	
do. Calhoun to Harriet	6	....	....	....	972	3,153
North st., at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave., Wilbraham road to south roadway of Gunn square (south)	6	....	....	1,660	....	1,660
North Church ave	4	....	....	....	400	400
North Main st., Carew to 8″ gate (opposite No. 279-283), near Grove st (south)	8	....	....	....	3,112	
do. near Grove (south) to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,924	....		
do. at Thomas st. (crossing Burt's brook)	8	....		....	52	
do. north from Wason ave.	8	....	....	....	28	6,116
do. Carew to Grace	16	....	....	5,415		
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (west)	4	....	....	14	....	
do. Grace to Chicopee line (P) (S. R.-7,948)	1¼	1,740	....	....	....	7,193
Norwood st	6	....	....	....	1,016	1,016
Oak st	6	1,450	...	....	....	1,450
Oak st., I. O., north from Main	4	....	...	362	....	
do. Main to Hampshire	6	....	....	1,336	....	
do. Hampshire to old Bay road	4	....	....	1,237		
do. old Bay road to High st	6	....	....	734	....	
do. west and north from Parker	6	..	...	2,328	....	
do. south from Main (for S. R.-10,003)	2	83	....	....	....	
do. south from Worcester (for S. R.-6,671)	1¼	150	....	....	...	6,230
Oak Grove ave., north from State st	6	....	....	388	....	388
Oakland st., at Belmont ave	8	....	....	21	..	
do. from 8″ to Orange st	6	...	....	1,872	....	1,893
Olive st	6	....	....	515	....	515
Orange st., Highland to White	6	....	....	1,581	....	
do. east from White	6	....	....	474	....	2,055

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Orchard street	6	...	....	....	1,452	1,452
Orleans court, Oak st. to 1¼″	1¼	255	....	....	....	
do. from 1¼″ to Orleans st. (P) (S. R.-7,871-8,111)	1¼	182	....	....	....	437
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave	6	....	....	858	....	1,613
Osgood st., North Main to 4″ cast iron near North	4	....	925	....	....	
do. from 4″ cement-lined to 8″ at North.	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	...	21	....	21
Ozark st., Orange to Grand ave	6	....	....	610	....	610
Palmer ave., east from Locust st	6	....	....	307	....	
do. east from 6″ (P) (S. R.-5,695)	2	543	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	....	....	2,649	....	
do. Sumner to Pineywoods	6	....	....	832	....	3,481
Park st., east from Willow	3	....	....	....	224	
do. east from 3″	6	....	....	....	202	
do. from 6″ cast-iron to same at Maple	6	....	314	....	....	
do. at Maple	6	....	....	....	30	770
Parker ave., south from Dickinson st	6	....	....	448	....	448
Parker st., Main, I. O., to Oak, I. O.	6	....	....	3,677	....	
south from Oak, I. O.	4	...	....	920	....	4,597
Pasadena ave., White st. to Johnson	6	....	....	790	....	
do. south from Johnson st	6	....	....	219	..	1,009
Pasco st., I. O., Essex to opposite No. 53	6	....	....	623	....	623
Patton st., east from Main	4	....	....	....	810	
do. from 4″ to Chestnut	6	....	...	..	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st., Chestnut to Spring	6	....	....	....	992	992
do. Spring to Byers	6	....	....	296	....	
do. Byers to Federal	4	....	....	2,150	....	2,446
Penacook ave., north from Carew st. (P) (S. R.-10,178)	1¼	387	....	....	....	387
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Phœnix ave., east from Liberty st	6	....	....	502	....	502
Pine st, Walnut to Cedar (6″ gate, north)	6	....	....	1,679	....	
do. Cedar (6″ gate, north) to Maple (west line)	16	1,894	....	....	....	
do. west from 16″ at Maple (west line)	24	114	....	....	....	
do. from 24″ to Mill (north line produced)	16	766	....	....	....	4,453
Pine st., I.O., Main to beyond Chapman Valve Mfg. Co.'s shops	6	....	....	1,807	....	1,807
Pine st. court	2	365	....	....	....	365
Pineywoods ave., Park boulevard to Hawthorn place	6	....	....	1,753	...	1,753
Plainfield st., north from Bradford	6	...	....	....	17	
do. from 6″, near Bradford, to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6	....	....	....	278	
do. Washburn to Wason ave	8	....	....	....	4,482	6,125
Pleasant st	4	500	.. .	....	....	500
Plymouth st	6	....	....	....	500	500
Pomona ave., Sumner to Granada terrace, (north)	6	....	....	612	....	612

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Portsmouth st., east from Eastern ave	6	....	....	243	....	243
Princeton st., Bay to Cornell	6	....	....	1,877	....	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	614	614
do. west from Carew	6	....	....	46	....	46
Pynchon st., at Water	8	....	....	....	15	
do. east from 8″	6	....	....	....	16	
do. east from 6″	3	....	....	....	800	
do. from 3″ to Main st	6	....	....	....	35	866
do. Main to beyond City Hall ave	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. from 4″ to Hancock	6	....	....	356	....	776
Quincy st., Oak to 8″ at Hancock (west)	6	....	....	1,427	....	
do. at Hancock (west)	8	....	....	11	....	
do. at Hancock (east)	8	....	....	8	....	
do. from 8″ at Hancock (east) to Eastern ave	6	....	....	1,370	....	
do. Eastern ave. to Colton st	6	....	....	317	....	3,133
Railroad st., west from Main	6	....	....	....	234	
do. from 6″ to Water st	1¼	....	359	....	....	593
Randall ave., north from Allen st	4	....	....	380	....	380
Raymond ave., north from Carew st. (P) (S.R.-8,618)	2	158	....	....	....	
do. north from private pipe	2	100	....	....	....	258
Reed st., south from State (P) (S. R.-5,637) (dead end)	2	690	....	....	....	
do. at Wilbraham road (for hydrant only)	6	....	....	9	....	699
Revere st	6	....	....	1,345	....	1,345
Richelieu place, east from Richelieu st. (P) (S. R.-8,627)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P) (S. R.-8,913)	2	286	....	....	....	
do. west from Mulberry st. (top of hill)	4	....	....	245	....	531
Rimmon ave., Gladwood to Atwater terrace	6	....	....	1,038	....	1,038
Ringgold st	6	....	....	....	753	753
Ripley ave	2	204	....	....	....	204
Rush ave., south from Berkshire st	1¼	273	....	....	....	273
Rutland ave., north from Wilbraham road	1¼	141	....	....	....	
do. north from 1¼″	3	37	....	....	....	178
Rutledge ave., east from Main st	6	....	....	....	530	530
Sackett's ave., at Worthington st. (P) (S. R.-9,638)	1	10	....	....	....	
do. south from 1″ at Worthington st. (P) (S. R.-9,638)	1¼	190	....	....	....	200
Salem st., Spring to Elliott	6	....	....	....	390	390
do. do.	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. from 6″ to Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to 4″ at Dwight	6	....	....	394	....	
do. at Dwight	4	....	....	6	....	400
Sargeant st	6	....	....	....	963	963
do. west from Main	6	....	....	194	....	194
School st., State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....	....	
do. from 4″ to Fulton	6	....	....	....	224	926

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Seventh st., west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st.	2	161	....	....	....	
do. south from Noel ave.	6	....	....	229	....	390
Sharon st.	6	....	1,585	....	....	1,585
Shattuck ave., College ave. to Cortland st.	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan st.	2	....	162	....	....	
do. south from 2″	1½	....	54	...	....	216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to opposite No. 164 (P) (S. R.-3,615-3,701)	1	112	....	....	....	1,712
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
Sorrento ave., north from Sumner	6	....	....	259	....	259
South st., Mill river to Long Hill st.	12	....	....	600	....	
do. south from Long Hill st.	8	....	....	1,167	....	
do. south from 8″	6	....	...	411	....	2,178
Spring st., State to Worthington	6	....	1,921	...	....	
do. south from Lyman (dead end)	6	....	...	....	350	2,271
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., east from Chestnut (at brook) to 16″ cast-iron	20	....	585	....	....	
do. from 20″ cement-lined to the same from Van Horn reservoir through meadow	16	....	....	....	265	850
do. Chestnut to Armory	8	....	....	3,413	....	
do. Armory to Gladwood ave.	12	....	....	153	....	
do. north from Gladwood ave.	6	....	....	518	....	
do. connecting high and low services at hospital (see S. R.-5,547-A.)	4	....	....	9	....	4,093
Spruce st.	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., from opposite Gas Co.'s boiler house to Water	6	....	....	....	165	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	...	....	....	50	
do. from 6″ near Main to Maple	8	....	....	....	772	
do. Maple to Elliott	6	....	...	....	783	
do. Elliott to Spring	6	....	349	...	....	3,112
do. from railroad (west) to Water	4	....	....	330	....	
do. Water to 12″ at Main (west)	8	....	....	923	....	
do. at Main (west)	12	....	....	12	....	
do. Main to Spring	16	...	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. Federal to Indian Orchard road (or Berkshire st.) (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Catharine to Eastern ave. (south of 24″ main—for Catharine st)	12	....	....	138	....	
do. west from College (south of 24″ main—for College st)	8	....	....	93	....	5,295
State st. ave., north from State st.	1½	251	....	....	....	251
Stebbins st., State to Union	4	....	....	776	....	776
Stebbins st., Ludlow, west from Harris road	6	....	....	470	....	470
Sterns terrace, north from Central st.	2	475	....	....	....	475

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
St. James ave., State st. to Bay	8	200	....	....	...	
do. Bay to 8″ at Dartmouth (south)	6	....	....	2,694	....	
do. at Dartmouth (south)	8	...	....	12	....	
do. at Dartmouth (north)	6	....	....	12	....	
do. from 6″ at Dartmouth (north) to 6″ near Lafayette	8	....	....	1,321	...	
do. from 8″ near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	...	....	...	368	368
do. Maple to Willow	6	....	....	470	....	470
Suffolk st., south from Wilbraham road	6	..	...	1,385	....	1,385
Sullivan st., east from Armory	8	...	....	380	....	380
Summer st., east from Spring	6	...	....	....	43	
do. from 6″ to Autumn st	3	....	644	....	...	
do. Autumn st. to Kibbe ave	8	...	....	....	1,221	
do. north to site of old Athol engine house	4	...	....	....	210	2,118
Summer st., Kibbe ave. to Armory st	8	....	....	1,160	....	1,160
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	701	....	
do. Fort Pleasant to Belmont	8	...	...	4,440	....	
do. Belmont to White st	8	...	....	2,396	....	
do. White st. to Irvington ave	6	....	....	324	....	7,861
Symonds ave., Worthington st. to North Church ave	4	.	....	....	150	150
Talcott ave., east from Plainfield st	6	....	....	....	735	
do. from cast-iron to Fisk ave	6	.	42	....	....	777
Taylor ave., west from Willow st	2	...	197	....	....	197
Taylor st., east from Chestnut	2	....	350	....	...	350
do. Main to Dwight	8	....	....	843	....	
do. east from Dwight	8	...	.	383	....	
do. from 8″ to Chestnut	6	....	...	44	....	1,270
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	..	....	1,625	1,625
do. east from Main	6	.	....	25	....	25
Terrence st	4	815	.	....	....	815
Thomas street	6	....	...	....	632	632
do. at North Main	6	....	...	44	....	44
Thompson st., State to St. James avenue	8	1,540	....	..	....	
do. St. James avenue to Worthington st.	8	....	....	716	....	2,256
Townsley ave	6	....	.	174	.	174
Tyler st., Oak to Hancock	6	1,440	....	....	...	
do. Hancock to Colton	6	....	...	1,689	....	3,129
Union st., railroad to 4″ cast-iron near Water st	4	....	386	....	....	
do. from 4″ cement-lined to Water	4	....	....	....	49	
do. Water to Maple	6	....	....	....	2,123	2,558
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	...	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	...	6,632
VAN HORN RESERVOIR, as follows:—						
From gatehouse through dam	12	....	....	....	200	
From gatehouse through dam	16	....	...	....	200	
From 16″ at dam westerly through meadow to Springfield st	20	....	1,800	....	....	2,200
From Armory street main to upper basin (high service feeder)	6	....	....	278	....	278

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Vassar street	6	....	....	542	....	542
Ventura ave	6	....	....	960	....	960
Vernon st	6	....	....	....	910	910
Vine st	6	....	....	....	823	823
do. west from Main	6	....	....	89	...	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walden st., Forest ave. to Commonwealth	6	....	....	302	....	
do. east from Commonwealth ave. (see S. R.-12,275)	1¼	202	....	....	....	504
Walker st	6	....	619	....	....	619
do. Water to Gardner ave	8	....	....	450	....	
do. Gardner ave. to railroad	6	....	....	223	...	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	...	
do. Cedar to Hancock	8	....	....	830	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	5,127
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., south from Wilbraham road	6	....	....	537	....	537
Wareham st., Orange to Grand ave	4	....	....	595	....	595
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	...	360
Warwick ave., east from Heywood ave. (P) (S. R.-6,720)	6	....	....	386	...	
do. completion to Armory	6	...	....	867	...	
do. for hydrants (P) (S. R.-6,720)	4	....	...	24	....	1,277
Washburn st., west from east line of Plainfield	6	....	....	....	1,453	1,453
Washington st., east from Commonwealth ave	6	....	....	228	....	228
Wason ave., west from North Main st. (less cast-iron opposite shops of Baush Machine Tool Co.)	8	....	631	....	....	
do. opposite shops of Baush Machine Tool Co.	8	...	....	...	76	
do. from 8″ to Fisk ave	12	....	....	....	213	
do. Fisk ave., to near Plainfield st	10	....	....	....	972	
do. from 10″ to Plainfield st	8	....	....	....	15	1,907
do. at Birnie ave. (west)	8	....	....	93	....	
do. at Fisk ave. (east)	12	....	....	15	...	
do. at Fisk ave. (west)	8	....	....	14	....	122
Water st., Railroad st. to Hampden	6	....	....	....	308	
do. Hampden to Gardner	12	....	4,810	....	....	
do. Walker to Lombard (for fire reservoir, opposite Walker st.)	6	....	....	....	105	5,223
do. State to Howard	8	....	....	476	....	
do. Margaret to Walker	8	....	....	588	....	1,064
Waverly st., No. Main to near Chestnut	8	....	860	....	..	
do. near Chestnut to 12″	8	....	....	....	33	
do. from 8″ cast-iron to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	...	31
Webster ave., at Pearl st. (north)	4	....	....	....	6	
do. north from 4″	3	....	232	....	....	
do. south from Pearl st. (P) (S. R.-8,496)	1¼	...	142	....	....	380
Webster st	6	....	....	668	...	668
Welcome place	6	....	....	252	....	252

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Total in Feet.
Wellesley st.	6	....	....	481	....	481
Wellington st., south from Wilbraham road	6	....	....	1,063	....	1,063
Wendell ave., east from Main st.	6	....	....	....	465	465
Westford ave., Wilbraham road to King st.	6	....	....	2,160	....	2,160
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., Allen to hydrant, south of Dawson ave. (opposite house No. 244)	6	....	....	2,587	....	2,587
Whitney ave., west from Water st.	4	....	....	....	419	419
Wight ave., east from Water st.	6	....	....	....	277	
do. east from 6″	1½	....	157	....	....	434
Wilbraham ave., south from Wilbraham road	6	....	....	1,597	....	
do. 6″ to King st.	8	....	....	542	....	
do. north from Alden st.	8	....	....	27	....	2,166
Wilbraham road, Eastern ave. to near Carlisle ave. (west)	12	....	....	3,927	....	
do. from 12″ to opposite House of Good Shepherd	8	....	....	1,631	....	
do. east from 8″ (see S. R.-12,284-12,285)	1¼	421	....	....	....	
do. west from Reed st. (P) (S. R.-7,329)	1¼	153	....	....	....	6,132
Wilcox st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	3	
do. at Water (west)	8	....	....	....	3	
do. from 8″ at Water (west) to railroad	4	....	....	....	457	1,428
Willard ave., near State st., to Shattuck avenue	6	....	....	714	....	
do. at Shattuck ave. (north)	6	....	....	8	....	722
William st., railroad to Water	6	....	523	....	....	
do. east from Main	6	....	....	....	23	
do. east from 6″	4	....	227	....	....	
do. from 4″ to Dale	6	....	....	....	388	1,161
do. Water to Main	6	....	....	971	....	
do. east from Main	6	....	....	248	....	1,219
Willow st., State to Taylor ave.	6	....	....	....	630	
do. at Taylor ave. (south)	4	....	....	....	3	
do. from 4″ at Taylor ave. (south) to Park st.	3	....	....	....	153	786
do. State to Hubbard ave.	10	....	....	1,220	....	1,220
Winchester st.	4	543	....	....	....	543
Windsor ave	1½	485	....	....	....	485
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st.	6	....	....	....	697	697
Wolcott st., east from Liberty	6	....	....	306	....	306
Woodbine ave., north from Hickory st.	4	....	....	327	....	
do. north from 4″ (P) (S. R.-8,185)	1¼	192	....	....	....	519
Woodside ave.	6	....	....	449	....	449
Woodworth ave.	2	457	....	....	....	457
Worcester ave., east from Plainfield st.	6	....	....	....	811	
do. from 6″ to Fisk ave.	4	....	....	....	52	863
Worcester st., I. O., east from Chestnut	6	....	....	303	....	
do. Myrtle to Oak	6	....	....	735	....	
do. Oak to Pine	2	593	....	....	....	
do. Pine to near Lyons	6	....	....	1,352	....	2,983
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Spring	6	....	....	....	2,114	
do. Spring to Kibbe ave.	6	....	1,857	....	....	4,122

MAIN AND DISTRIBUTION PIPE—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length of Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Worthington st., west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near No. 176	10	....	....	559	...	
do. near No. 176 to Bowdoin	8	....	....	4,672	...	
do. Bowdoin to St. James ave	12	....	....	1,654	....	7,781
Yale st., Dartmouth to Monmouth	6	...	....	1,666	....	1,666
York st., west from Main	8	....	281	....	....	
do. west from wrought-iron	8	...	....	....	183	
do. from 8″ to Hanover (west) (see note) (NOTE:—6″ connected at Hanover with 8″ high service main in that street, and actually high service west of east end of jail.)	6	....	....	....	497	961
Totals	....	129,287	51,162	453,795	137,819	772,063

MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
1-inch	989	.....	989	260	.....	260	1,249
1¼-inch	6,714	.....	6,714	1,948	.....	1,948	8,662
1½-inch	4,904	.....	4,904	353	.....	353	5,257
2-inch	19,840	.....	19,840	2,498	.....	2,498	22,338
3-inch	926	.....	926	1,326	1,177	2,503	3,429
4-inch	5,779	41,293	47,072	7,562	12,405	19,967	67,039
6-inch	15,588	221,228	236,816	11,428	95,877	107,305	344,121
8-inch	10,317	80,150	90,467	7,589	17,593	25,182	115,649
10-inch	.....	4,107	4,107	.....	972	972	5,079
12-inch	1,782	25,223	27,005	8,084	8,997	17,081	44,086
16-inch	9,874	19,589	29,463	6,014	788	6,802	36,265
20-inch	.....	1,999	1,999	4,100	10	4,110	6,109
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,319	40,319	.....	.....	.....	40,319
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	129,287	453,795	583,082	51,162	137,819	188,981	772,063

RECAPITULATION BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	129,287	24.48	51,162	9.69	180,449	34.17
Cast-Iron	453,795	85.95	137,819	26.10	591,614	112.05
Totals	583,082	110.43	188,981	35.79	772,063	146.22

GATES SET IN 1901.

(INCLUDING THOSE ADDED.)

ONE AND ONE-QUARTER INCH.

Dupont place, at Clayton avenue,	High,	1	
Mill street, at Central (south),	High,	1	
Railroad street, at end of 6″,	Low,	1	
		—	3

ONE AND ONE-HALF INCH.

William street, at Main (flush),	High,	1	
		—	1

TWO INCH.

Cass street, opposite No. 35 (flush),	High,	1	
Cass street, at Franklin (flush),	High,	1	
Franklin street, at Cass (flush),	High,	1	
Merrick avenue, opposite No. 29 (flush),	High,	1	
Pasadena avenue, at No. 42 (flush),	High,	1	
Walnut street, opposite No. 337 (flush),	High,	1	
		—	6

THREE INCH.

Cherrelyn avenue, near No. 27 (flush),	High,	1	
Emery street, at Main (flush),	High,	1	
Fairfield street, near bend (flush),	High,	1	
Hall street, near Dickinson (flush),	High,	1	
		—	4

FOUR INCH.

Belmont avenue, at Sumner (south) (flush),	High,	1
Birnie avenue, for Birnie Paper Company (private),	High,	1
" " " " " " "	Low,	1
Cornell street, at Harvard (flush),	High,	1
Franklin street, for Charles street schoolhouse (private),	High,	1
Lyman street, for F. C. Hatch (private),	High,	1
Main street, for Richard McKinney (private),	High,	1
Market street, for National Biscuit Company (private),	High,	1

North Main street, for hydrant N. E. corner Bancroft,	Low,	1	
Sherman street, opposite No. 74 (flush),	High,	1	
State street, for D. O. Gilmore (private),	Low,	1	
Wareham street, at Grand avenue,	High,	1	
Wareham street, at Orange,	High,	1	
Water street, for P. P. Emory Mfg. Company (private),	Low,	1	
		—	14
SIX INCH.			
Central street, at top of hill (for track hydrant for car sprinklers),	High,	1	
Franklin street, at Liberty (for hydrant),	High,	1	
Grand avenue, at Revere street (east),	High,	1	
Grand avenue, at White street,	High,	1	
Hampden street, for P. P. Emory Mfg. Co. (private),	High,	1	
Hunter place, at State street (Smith),	High,	1	
Irvington avenue, at Sumner,	High,	1	
Ludlow Mfg. Co.'s new street "A" (not yet named) at Parker, I. O.,	High,	1	
Market street, at Townsley avenue (north),	High,	1	
Ozark street, at Grand avenue,	High,	1	
Sumner avenue, at White street (east),	High,	1	
Worcester street, I. O., at Chestnut (east),	High,	1	
		—	12
EIGHT INCH.			
Sumner avenue, at Lester street (west),	High,	1	
		—	1
Total number of gates added in 1901,			41

GATES TAKEN OUT IN 1901.

(INCLUDING THOSE ABANDONED.)

ONE INCH.			
Howard street, at railroad (east),	Low,	1	1
ONE AND ONE-QUARTER INCH.			
Howard street, at Water (west),	Low,	1	1
TWO INCH.			
Prospect place, at Prospect street (private),	Low,	1	
Sherman street, near State (flush),	High,	1	2
FOUR INCH.			
Cornell street, near No. 10 (flush),	High,	1	
Sherman street, opposite No. 30 (flush),	High,	1	2
Total number of gates deducted in 1901,			6

Number of gates December 1, 1900,		1,889
Number of gates added in 1901,	41	
Number of gates deducted in 1901,	6	
Net addition in 1901,		35
Total number of gates December 1, 1901,		1,924

FIRE HYDRANTS SET IN 1901.

HIGH SERVICE.

Boston road, north side, at Ashby street,	1	
Franklin street, N. W. corner Liberty,	1	
Grand avenue, midway Ozark and Wareham streets,	1	
Hunter place, at end of pipe,	1	
Irvington avenue, at end of pipe,	1	
Ludlow Mfg. Co.'s new street "C" (not yet named), S. E. corner new street "A" (near Parker, I. O.),	1	
Oak street, I. O., N. E. corner of High,	1	
Ridgewood terrace, at end of 4",	1	
Sumner avenue, east of Converse street,	1	
Worcester street, I. O., at end of pipe,	1	
	—	10

Total number of city hydrants set in 1901, . . 10

FIRE HYDRANTS TAKEN OUT IN 1901.

LOW SERVICE.

Worthington street, S. W. corner Spring,	1	
		1
Total number of city hydrants taken out in 1901,		1

Number of city hydrants as per report December 1, 1900,		955
Number of city hydrants set in 1901,	10	
Number of city hydrants taken out in 1901,	1	
Net addition, 1901,		9
Total number of city hydrants December 1, 1901,		964
High service, 708		
Low service, 256		

Number of private hydrants December 1, 1900,	91	
Number of private hydrants set in 1901,	0	
Total number of private hydrants December 1, 1901,		91
Total number of hydrants connected with the works, December 1, 1901,		1,055

FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets,	Chapman
2.	L.	N. W. corner Main and Cypress streets,	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue,	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street,	Chapman
5.	L.	Gray's avenue, west side, midway,	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets,	Chapman
7.	H.	N. E. corner Cypress and Boylston streets,	Chapman
8.	L.	N. E. corner Fulton and Cypress streets,	Chapman
9.	H.	N. E. corner Fulton and Cypress streets,	Chapman
10.	H.	N. E. corner Fulton and Emery streets,	Chapman
11.	L.	N. E. corner Fulton and Emery streets	Chapman
12.	H.	N. E. corner Emery and Boylston streets,	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue,	Chapman
14.	H.	S. W. corner Main and Emery streets,	Chapman
15.	H.	N. W. corner Main and Clinton streets,	Chapman
16.	L.	Clinton street, south side, midway,	Chapman
17.	L.	N. E. corner Fulton and Clinton streets,	Chapman
18.	L.	N. E. corner Fulton and Vine streets,	Chapman
19.	L.	Vine street, south side, midway,	Chapman
20.	H.	N. W. corner Main and Vine streets,	Chapman
21.	H.	N. W. corner Main and Holyoke streets,	Chapman
22.	L.	Holyoke street, north side, midway,	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets,	Chapman
24.	L.	N. E. corner Fulton and Auburn streets,	Chapman
25.	L.	Auburn street, north side, midway,	Chapman
26.	H.	S. W. corner Main and Auburn streets,	Chapman
27.	H.	S. W. corner Main and Seventh streets,	Chapman
28.	L.	Seventh street, north side, midway,	Perkins
29.	L.	N. E. corner Fulton and Seventh streets,	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets,	Chapman
31.	L.	Sargeant street, south side, midway, 6″ S. con.,	Chapman
32.	H.	N. W. corner Main and Sargeant streets,	Chapman

No.	High or Low.	Location.	Make.
33.	H.	N. W. corner No. Main and Bradford streets,	Chapman
34.	L.	Bradford street, north side, midway,	Chapman
35.	L.	N. E. corner Fulton and Bradford streets,	Chapman
36.	L.	N. E. corner Fulton and John streets,	Chapman
37.	L.	S. W. corner Plainfield and John streets,	Chapman
38.	L.	Plainfield street, west side, near Plymouth,	Chapman
39.	L.	Fulton street, opposite M. Dunn's house, Round Hill,	Chapman
40.	L.	Plainfield street, east side, at Fulton,	Chapman
41.	L.	N. W. corner Plainfield and Washburn streets,	Chapman
42.	L.	N. W. corner Plainfield and Lowell streets,	Chapman
43.	L.	Lowell street, north side, midway,	Chapman
44.	L.	Lowell street, north side, at end of street,	Chapman
45.	L.	Washburn street, north side, midway,	Chapman
46.	L.	Washburn street, north side, at end of street,	Chapman
47.	L.	Orchard street, north side, at end of street,	Chapman
48.	L.	Orchard street, north side, midway, 6″ S. con.,	Chapman
49.	L.	Orchard street, N. W. corner Plainfield,	Chapman
50.	L.	Newland street, N.W. corner Plainfield, 6″ S. con.,	Chapman
51.	L.	Newland street, north side, end of pipe, 6″ S. con.,	Chapman
52.	L.	Clyde street, N W. corner Plainfield, 6″ S. con.,	Chapman
53.	L.	Plainfield street, east side, opposite Clayton,	Chapman
54.	L.	Abbe avenue, N. W. corner Plainfield street,	Chapman
55.	L.	Abbe avenue, just east of No. 154, 6″ S. con.,	Chapman
56.	L.	Talcott avenue, N. E. corner Plainfield street,	Chapman
57.	L.	Talcott avenue, north side, midway,	Chapman
58.	L.	N. W. corner Fisk and Talcott avenues,	Chapman
59.	H.	S. W. corner Fisk and Worcester avenues,	Chapman
60.	L.	N. W. corner Fisk and Worcester avenues,	Chapman
61.	L.	Worcester avenue, north side, midway	Chapman
62.	L.	N. E. corner Plainfield street and Worcester ave.,	Chapman
63.	L.	N. E. corner Plainfield street and Demond avenue,	Chapman
64.	L.	Demond avenue, north side, midway,	Chapman
65.	H.	S. W. corner Fisk and Demond avenues,	Chapman
66.	H.	Fisk avenue, east end of Holyoke Card and Paper Co.'s shop,	Chapman
67.	H.	S. W. corner Fisk and Hyde avenues,	Chapman
68.	H.	Hyde avenue, S. E. corner Plainfield street,	Chapman
69.	L.	N. E. corner Plainfield street and Hyde avenue,	Chapman

No.	High or Low.	Location.	Make.
70.	L.	S. E. corner Plainfield street and Wason avenue,	Chapman
71.	H.	S. W. corner Wason and Fisk avenues,	Chapman
72.	L.	S. E. corner Wason and Fisk avenues,	Matthews
73.	L.	Wason avenue, north side, opposite No. 31,	Chapman
74.	H.	Birnie avenue, S. E. corner Wason, 6",	Chapman
75.	L.	North Main street, opposite Wason avenue,	Chapman
76.	H.	Birnie avenue, 200 feet north of Grace street,	Chapman
77.	H.	S. E. corner Birnie avenue and Grace street,	Chapman
78.	L.	Birnie avenue, at the end of Grace street,	Ayers
79.	H.	S. W. corner No. Main and Grace streets,	Chapman
80.	H.	N. W. corner No. Main and Walter streets,	Chapman
81.	H.	Birnie avenue, S. E. corner Alfred street, 6",	Perkins
82.	H.	Birnie avenue, S. E. corner Douglas street,	Chapman
83.	H.	Birnie avenue, south of preceding,	Chapman
84.	L.	Birnie avenue, between the two preceding, 6" S. con.,	Chapman
85.	H.	Douglas street, N. W. corner No. Main,	Chapman
86.	H.	Douglas street, north side, east end of pipe, 6" S. con.,	Chapman
87.	H.	N. E. corner No. Main and Grove streets,	Chapman
88.	L.	N. W. corner No. Main and Hooker streets,	Chapman
89.	H.	East Hooker street, N. E. corner No. Main, 6" S. con.,	Chapman
90.	L.	N. E. corner No. Main and Calhoun streets,	Chapman
91.	H.	S. E. corner No. Main and Calhoun streets,	Chapman
92.	L.	N. E. corner No. Main street and Jefferson ave.,	Chapman
93.	H.	Jefferson avenue, midway No. Main and North streets, 6" S. con.,	Chapman
94.	L.	Arch street, north side, front of No. 36,	Chapman
95.	H.	N W corner No. Main and Arch streets,	Perkins
96.	L.	Bancroft street, south side, midway,	Chapman
97.	H.	N. E. corner No. Main and Bancroft streets,	Chapman
98.	L.	N. E. corner No. Ma n and Bancroft streets,	Chapman
99.	H.	S. E. corner No. Main and Osgood streets,	Chapman
100.	L.	Morgan street, south side, midway,	Chapman
101.	H.	N. E. corner No. Main and Morgan streets,	Chapman
102.	L.	S. E. corner No. Main and Morgan streets, 6" S. con.,	Chapman
103.	H.	S. E. corner No. Main and Church streets,	Chapman

No.	High or Low.	Location.	Make.
104.	H.	North street, N. E. corner Carew,	Chapman
105.	L.	N. E. corner Carew and North streets, 6″ S. con.,	Chapman
106.	L.	Carew place, east side, end of pipe,	Chapman
107.	H.	S. E. corner Main and Carew streets,	Chapman
108.	H.	S. E. corner Main and Bond streets,	Chapman
109.	L.	N. E. corner Main and Bond streets,	Chapman
110.	L.	Bond street, north side, midway,	Chapman
111.	L.	Bond street, north side, front of Nos. 110-112,	Chapman
112.	L.	N. W. corner Chestnut and Patton streets,	Chapman
113.	L.	Patton street, north side, front of No. 54,	Chapman
114.	L.	N. E. corner Main and Patton streets,	Chapman
115.	H.	S. E. corner Main and Patton streets,	Chapman
116.	H.	N. E. corner Main and Essex streets,	Chapman
117.	L.	N. E. corner Main and Essex streets,	Perkins
118.	L.	Essex street, north side, opposite No. 51,	Perkins
119.	L.	Essex street, north side, front of No. 98,	Perkins
120.	L.	N. W. corner Chestnut and Tenth streets,	Chapman
121.	L.	Tenth street, north side, opposite Nos. 105-107,	Chapman
122.	L.	Tenth street, north side, front of Nos. 54-56,	Chapman
123.	H.	N. E. corner Main and Tenth streets,	Chapman
124.	H.	N. E. corner Main and Greenwood streets	Chapman
125.	L.	Greenwood street, north side, front of No. 42,	Chapman
126.	L.	Greenwood street, north side, opposite No. 82,	Chapman
127.	L.	Greenwood street, north side, front of No. 118	Chapman
128.	H.	S. W. corner Chestnut and Franklin streets,	Chapman
129.	H.	Franklin street, south side, front of Nos. 111-113,	Chapman
130.	H.	Franklin street, south side, at stone yard,	Chapman
131.	H.	Franklin street, south side, opposite No. 46,	Chapman
132.	L.	N. E. corner Main and Franklin streets,	Chapman
133.	H.	Franklin street, S. E. corner Main, 6″ S. con.,	Chapman
134.	H.	S. E. corner Main and Congress streets,	Chapman
135.	L.	Congress street, north side, opposite No. 33,	Chapman
136.	L.	Congress street, north side, opposite No. 97,	Chapman
137.	L.	N. W. corner Chestnut and Sharon streets,	Perkins
138.	L.	Sharon street, north side, front of No. 92,	Perkins
139.	L.	Sharon street, north side, front of No. 52,	Chapman
140.	H.	S. E. corner Main and Sharon streets,	Chapman
141.	H.	S. E. corner Main and Ferry streets,	Chapman
142.	L.	Ferry street, north side, front of No. 47,	Chapman

No.	High or Low.	Location.	Make.
143.	L.	Ferry street, north side, opposite No. 97,	Chapman
144.	L.	Chestnut street, west side, opposite Liberty,	Perkins
145.	H.	Chestnut street, opposite Ferry, 6″ S. con.,	Chapman
146.	H.	Chestnut street, opposite No. 275, 6″ S. con.,	Chapman
147.	H.	Chestnut street, opposite Sharon, 6″ S. con.,	Chapman
148.	H.	Chestnut street, east side, opposite Congress,	Chapman
149.	H.	Chestnut street, S. E. corner Franklin, 6″ S. con.,	Chapman
150.	H.	Franklin street, north side, west of Charles, 6″ S. con.,	Chapman
151.	H.	Chestnut street, opposite Greenwood, 6″ S. con.,	Chapman
152.	H.	Chestnut street, opposite Tenth, 6″ S. con.,	Chapman
153.	H.	N. E. corner Chestnut and Linden streets, 6″ S. con.,	Chapman
154.	L.	Linden street, near S. E. corner Chestnut,	Chapman
155.	L.	Linden street, south side, opposite No. 46,	Perkins
156.	L.	S. W. corner Cass and Linden streets,	Chapman
157.	L.	S. W. corner Cass and Everett streets,	Chapman
158.	L.	Everett street, south side, midway,	Chapman
159.	H.	Chestnut street, opposite Patton, 6″ S. con.,	Chapman
160.	L.	S. E. corner Chestnut and Everett streets,	Chapman
161.	L.	Arbor street, east side, front of No. 40,	Chapman
162.	H.	Prospect street, S. W. corner Carew, 6″ S. con.,	Chapman
163.	H.	Massasoit street, N. E. corner Carew,	Chapman
164.	L.	N. W. corner Carew and Massasoit streets, 6″ S. con.,	Chapman
165.	H.	Chestnut street, S. E. corner Carew,	Chapman
166.	L.	N. E. corner Chestnut and Carew streets,	Chapman
167.	L.	N. W. corner Chestnut and Grosvenor streets,	Chapman
168.	L.	Grosvenor street, south side, midway,	Chapman
169.	L.	N. E. corner North and Grosvenor streets,	Chapman
170.	L.	N. E. corner North and Ringgold streets,	Chapman
171.	L.	S. W. corner North and Morgan streets,	Chapman
172.	L.	Ringgold street, south side, midway,	Chapman
173.	L.	S. W. corner Chestnut and Ringgold streets,	Chapman
174.	L.	N. W. corner Chestnut and Hebron streets,	Chapman
175.	L.	Hebron street, north side, midway,	Chapman
176.	L.	S. W. corner Prospect and Massasoit streets,	Chapman
177.	L.	N. W. corner Chestnut and Allendale streets,	Chapman
178.	L.	Allendale street, south side, midway,	Chapman

No.	High or Low.	Location.	Make.
179.	L.	N. W. corner North and Osgood streets,	Chapman
180.	L.	S. W. corner North and Bancroft streets,	Perkins
181.	L.	Brookline avenue, S. W. corner Chestnut street, 6″ S. con.,	Chapman
182.	L.	S. W. corner Chestnut and Bancroft streets,	Chapman
183.	L.	Lexington avenue, N. W. corner Massasoit street,	Chapman
184.	L.	S. W. corner North street and Jefferson avenue,	Chapman
185.	H.	N. W. corner North street and Jefferson avenue, 6″ S. con.,	Chapman
186.	L.	N. W. corner Montmorenci and Massasoit streets,	Chapman
187.	L.	Montmorenci street, north side, midway,	Chapman
188.	L.	N. W. corner Chestnut street and Jefferson ave.,	Chapman
189.	L.	Calhoun street, north side, at North,	Chapman
190.	L.	Alexander street, N. E. corner North,	Chapman
191.	L.	S. W. corner Chestnut and Waverly streets,	Chapman
192.	L.	Harriet street, N. E. corner North, 6″ S. con.,	Chapman
193.	L.	Chestnut street, west side, near Springfield,	Chapman
194.	H.	Merwin street, N. W. corner Chestnut, S. con.,	Chapman
195.	H.	Eagle street, N. W. corner Chestnut, S. con.,	Chapman
196.	H.	Springfield street, opposite city hospital, 6″ S. con.,	Chapman
197.	H.	Springfield street, midway Chestnut and Armory, 6″ S. con.,	Chapman
198.	H.	Atwater terrace, north side, end of pipe,	Chapman
199.	H.	Rimmon avenue, south side, end of pipe,	Perkins
200.	H.	Rimmon avenue, S. W. corner Gladwood,	Perkins
201.	H.	Springfield street, S. W. corner Armory,	Perkins
202.	H.	Armory street, front of truant school, 6″ S. con.,	Chapman
203.	H.	N. E. corner Carew and Armory streets,	Chapman
204.	H.	Grover street, north side, midway Armory and Liberty, 6″ S. con.,	Chapman
205.	H.	Grover street, N. W. corner Liberty, 6″ S. con.,	Chapman
206.	H.	Clayton avenue, east side, end of pipe, 6″ S. con.,	Chapman
207.	H.	Cherrelyn avenue, S. E. corner Phœnix, 6″ S. con.,	Chapman
208.	H.	Cleveland street, N. W. corner Liberty, 6″ S. con.,	Chapman
209.	H.	Cleveland street, N. E. corner Armory, 6″ S. con.,	Chapman
210.	H.	Sullivan street, N. E. corner Armory, 6″ S. con.,	Chapman
211.	H.	S. E. corner Liberty and Armory streets,	Chapman

No.	High or Low.	Location.	Make.
212.	H.	Armory street, east side, opposite Wolcott, 6″ S. con.,	Chapman
213.	H.	Liberty street (about 500 feet W. of Armory street), 6″ S. con.,	Chapman
214.	H.	Liberty street, front of Gurdon Bill's, 6″ S. con.,	Chapman
215.	H.	Franklin street, N. W. corner Liberty, 6″ S. con.,	Chapman
216.	H.	Columbia terrace, west side, at end of pipe, 6″ S. con.,	Chapman
217.	H.	S. W. corner Liberty street and Heywood avenue,	Chapman
218.	H.	Warwick avenue, north side, opposite Taber-Prang Co.'s shop, 6″ S. con.,	Chapman
219.	H.	Liberty street, south side, opposite Webster,	Chapman
220.	H.	N. E. corner Liberty and Vinton streets,	Chapman
221.	H.	Vinton street, S. E. corner Franklin,	Chapman
222.	H.	Webster street, S. W. corner Franklin, 6″ S. con.,	Chapman
223.	H.	Cass street, S. E. corner Franklin,	Chapman
224.	H.	Franklin street, north side, midway Cass and Charles, 6″ S. con.,	Chapman
225.	H.	Liberty street, south side, opposite Cass,	Chapman
226.	H.	Liberty street, north side, front of No. 200,	Chapman
227.	H.	S. E. corner Liberty and Charles streets,	Chapman
228.	L.	Charles street, west side, midway Franklin and Liberty, 6″ S. con.,	Chapman
229.	H.	Charles street, west side, near B. & A. R. R. freight house,	Chapman
230.	H.	S. E. corner Chestnut and Liberty streets,	Chapman
231.	H.	N. E. corner Chestnut street and driveway to B. & A. R. R. freight house,	Chapman
232.	H.	S. W. corner Chestnut and Liberty streets,	Chapman
233.	H.	N. W. corner Chestnut and Liberty streets, 6″ S. con.,	Chapman
234.	L.	Liberty street, north side, opposite Day & Jobson's planing mill,	Perkins
235.	H.	Liberty street, south side, front of R. R. station,	Chapman
236.	L.	Liberty street, south side, opposite No. 74,	Chapman
237.	L.	Liberty street, south side, east of Cooley's hotel,	Chapman
238.	H.	Liberty street, south side, east of Cooley's hotel,	Chapman
239.	L.	Liberty street, S. E. corner Main, 6″ S. con.,	Chapman
240.	H.	S. E. corner Main and Liberty streets, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
241.	H.	Main street, east side, just north of arch,	Chapman
242.	L.	Railroad street, S. W. corner Main, 6″ S. con.,	Chapman
243.	L.	Railroad street, at driveway of Massasoit house, 6″ S. con.,	Chapman
244.	L.	S. E. corner Water and Railroad streets,	Matthews
245.	H.	S. E. corner Water and Hampden streets,	Perkins
246.	H.	Hampden street, north side, midway,	Perkins
247.	L.	S. W. corner Main and Hampden streets, 6″ S. con.,	Chapman
248.	L.	Fort street, south side, midway,	Chapman
249.	L.	S. E. corner Water and Fort streets,	Chapman
250.	L.	S. W. corner Main and Worthington streets,	Chapman
251.	L.	N. W. corner Main and Bridge streets,	Chapman
252.	H.	Bridge street, north side, opposite Bond place,	Chapman
253.	H.	Bond place, west side, south end,	Chapman
254.	H.	Bridge street, south side, front of No. 43,	Matthews
255.	L.	N. E. corner Water and Bridge streets,	Chapman
256.	H.	N. W. corner Water and Bridge streets,	Chapman
257.	L.	Wight avenue, north side, at end of avenue,	Chapman
258.	L.	N. E. corner Water and Vernon streets,	Chapman
259.	L.	Vernon street, north side, midway,	Chapman
260.	H.	N. W. corner Main and Vernon streets,	Matthews
261.	L.	Main street, west side, front of No. 360, 6″ S. con,	Chapman
262.	L.	Main street, west side, front of No. 388, 6″ S. con.,	Chapman
263.	L.	S. W. corner Main and Vernon streets,	Chapman
264.	H.	N. W corner Main and Pynchon streets,	Matthews
265.	L.	S. W. corner Main and Pynchon streets,	Chapman
266.	H.	Pynchon street, south side, front of city hall park,	Chapman
267.	H.	City Hall avenue, west side, midway	Chapman
268.	L.	N. E. corner Water and Pynchon streets,	Chapman
269.	L.	Court street, south side, near Water,	Chapman
270.	L.	Court street, south side, midway,	Chapman
271.	H.	Court street, south side, opposite City hall, 6″,	Perkins
272.	L.	N. W. corner Main and Court streets, 6″ S. con.,	Chapman
273.	H.	S. W. corner Main and Court streets,	Chapman
274.	H.	N. W. corner Main and Elm streets, 6″,	Perkins
275.	L.	S. W. corner Main and Elm streets, 6″ S. con.,	Chapman
276.	H.	Elm street, S. W. corner Court square,	Chapman
277.	L.	Elm street, south side, midway,	Chapman

No.	High or Low.	Location.	Make.
278.	L.	N. E. corner Water and Elm streets,	Chapman
279.	H.	State street, west of N. Y., N. H. & H. R. R.,	Chapman
280.	H.	N. E. corner Water and State streets, 6",	Perkins
281.	L.	S. E. corner Water and State streets,	Chapman
282.	H.	State street, north side, front of No. 52, 6" S. con.,	Chapman
283.	L.	State street, south side, front of No. 71, 6" S. con.,	Chapman
284.	H.	State street, north side, near Court House,	Chapman
285.	L.	S. W. corner Main and State streets,	Chapman
286.	H.	N. W. corner Main and Bliss streets,	Chapman
287.	L.	S. W. corner Main and Bliss streets, 6" S. con.,	Chapman
288.	L.	Bliss street, south side, front of No. 29,	Chapman
289.	L.	Bliss street, south side, front of Nos. 57-59,	Chapman
290.	H.	Water street, N. E. corner Bliss,	Chapman
291.	L.	N. E. corner Water and Bliss streets,	Chapman
292.	L.	Bliss street, south side at railroad, 6" S. con.,	Chapman
293.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.,	Chapman
294.	L.	Howard street, south side, near N. Y., N. H. & H. R. R.,	Perkins
295.	H.	Water street, N. E. corner Howard,	Chapman
296.	L.	N. W. corner Water and Howard streets,	Chapman
297.	L.	Howard street, south side, front of No. 43,	Perkins
298.	H.	N. W. corner Main and Howard streets,	Chapman
299.	L.	S. W. corner Main and Howard streets,	Chapman
300.	L.	S. W. corner Main and Union streets,	Chapman
301.	L.	Union street, south side, midway Main and Water,	Chapman
302.	L.	S. E. corner Water and Union streets,	Chapman
303.	L.	Wilcox street, north side, near railroad,	Chapman
304.	L.	S. E. corner Water and Wilcox streets,	Chapman
305.	L.	Wilcox street, south side, front of No. 47,	Chapman
306.	H.	N. W. corner Main and Wilcox streets,	Chapman
307.	L.	S. W. corner Main and Wilcox streets,	Chapman
308.	H.	S. W. corner Main and William streets,	Chapman
309.	H.	William street, north side, front of No. 120,	Chapman
310.	H.	William street, north side, opposite No. 83,	Chapman
311.	L.	N. W. corner Water and William streets,	Perkins
312.	L.	William street, north side, near railroad,	Perkins
313.	L.	Margaret street, north side, near railroad,	Chapman

No.	High or Low.	Location.	Make.
314.	H.	Margaret street at street railway power house, 6″ S. con.,	Chapman
315.	H.	Water street, S. W. corner Margaret, 6″ S. con.,	Chapman
316.	L.	N. E. corner Water and Margaret streets,	Chapman
317.	L.	Margaret street, south side, opposite Nos. 42-44,	Chapman
318.	H.	N. W. corner Main and Margaret streets,	Chapman
319.	L.	S. W. corner Main and Margaret streets,	Chapman
320.	L.	S. W. corner Main and Fremont streets,	Chapman
321.	L.	Fremont street, south side, front of No. 41,	Chapman
322.	L.	N E. corner Water and Fremont streets,	Chapman
323.	L.	Whitney avenue, north side, end of avenue,	Chapman
324.	H.	Water street, west side, near Loring,	Chapman
325.	H.	Loring street, north side, front of No. 34,	Chapman
326.	H.	N. W. corner Main and Loring streets,	Chapman
327.	L.	Lombard street, north side, opposite No. 25,	Chapman
328.	H.	S. W. corner Water and Walker streets,	Chapman
329.	H.	Walker street, south side, near Walker's shop,	Chapman
330.	L.	Walker street, north side, midway, 6″ S. con.,	Chapman
331.	H.	Walker street, south side, near railroad,	Chapman
332.	H.	S. E. corner Gardner and Hanover streets,	Chapman
333.	L.	Gardner street, north side, front of No. 96,	Chapman
334.	H.	Gardner street, south side, opposite Gardner ave.,	Chapman
335.	L.	N. E. corner Water and Gardner streets,	Perkins
336.	L.	N. E. corner Hanover and Norwood streets,	Perkins
337.	L.	Norwood street, south side, midway,	Chapman
338.	L.	N. W. corner Main and Norwood streets,	Chapman
339.	L.	S. W. corner Main and Broad streets, 6″ S. con.,	Chapman
340.	L.	S. E. corner Hanover and Broad streets, 6″ S. con.,	Chapman
341.	H.	Hanover street, east side, near Broad,	Chapman
342.	L.	Elmwood street, north side, near Barney & Berry's shop,	Chapman
343.	H.	N. W. corner Hanover and York streets,	Chapman
344.	L.	York street, north side, front of schoolhouse,	Chapman
345.	L.	N. W. corner Main and York streets,	Perkins
346.	H.	Main street, east side, opposite No. 962,	Matthews
347.	H.	South street, east side, opposite No. 5,	Chapman
348.	H.	S. E. corner South and Long Hill streets,	Chapman
349.	H.	South street, east side, below Long Hill, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
350.	H.	South street, east side, at south end bridge, 6″ S. con.,	Chapman
351.	H.	Long Hill street, east side, near brick yard,	Chapman
352.	H.	Warner place, north side, midway, 6″ S. con.,	Chapman
353.	H.	Long Hill street, east side, north of Sumner ave.,	Chapman
354.	H.	N. E. corner Long Hill street and Sumner ave.,	Chapman
355.	H.	Long Hill street, east side, near Spruceland ave.,	Chapman
356.	H.	Spruceland avenue, south side, opposite No. 50,	Perkins
357.	H.	Long Hill street, N. E. corner Cherryvale avenue, 6″ S. con.,	Chapman
358.	H.	Pineywoods avenue, N. W. corner Washington boulevard, 6″ S. con.,	Chapman
359.	H.	Spruceland ave., S. W. corner Magnolia terrace,	Chapman
360.	H.	Magnolia terrace, just south of No. 83,	Chapman
361.	H.	Firglade avenue, east side, north of Spruceland,	Chapman
362.	H.	Pineywoods ave., N E. corner Firglade, 6″ S. con.,	Chapman
363.	H.	Park avenue, west side, end of pipe,	Chapman
364.	H.	Hawthorn place, east side, south of No. 51,	Chapman
365.	H.	S. E. corner Sumner avenue and Hawthorn place,	Chapman
366.	H.	S. E. corner Sumner and Firglade avenues,	Chapman
367.	H.	Magnolia terrace, at Sumner avenue,	Chapman
368.	H.	N. W. corner Sumner and Fort Pleasant avenues,	Chapman
369.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″ S. con.,	Chapman
370.	H.	Maplewood terrace, north side, midway, S. con.,	Chapman
371.	H.	Maplewood terrace, N. W. corner Park avenue,	Chapman
372.	H.	S. E. corner Forest street and Park avenue,	Chapman
373.	H.	Park avenue, N. E. corner Sumner,	Chapman
374.	H.	Greenleaf street, N. E. corner Sumner avenue,	Chapman
375.	H.	Sumner avenue, south side, at Forest Park, 6″ S. con.,	Chapman
376.	H.	Churchill street, N. E. corner Sumner avenue,	Chapman
377.	H.	Churchill street, S. E. corner Garfield,	Chapman
378.	H.	Greenleaf street, S. E. corner Garfield,	Chapman
379.	H.	Fairfield street, north side, midway,	Chapman
380.	H.	Belmont avenue, S. E. corner Litchfield street,	Chapman
381.	H.	Litchfield street, N. E. corner Garfield,	Chapman
382.	H.	N W corner Belmont avenue and Oakland street,	Chapman
383.	H.	Oakland street, west side, opposite No. 46,	Chapman

No.	High or Low.	Location.	Make.
384.	H.	Kenwood park, N. W. corner Belmont avenue, 6″,	Chapman
385.	H.	Beaumont street, N. W. corner Belmont avenue, 6″ S. con.,	Chapman
386.	H.	Brace street, N. W. corner Belmont avenue, 6″ S. con.,	Chapman
387.	H.	Continental avenue, east side, end of pipe, 6″ S. con.,	Chapman
388.	H.	Cliftwood avenue, S. E. corner Sumner, 6″ S. con.,	Chapman
389.	H.	Lenox street, at end of same, 6″ S. con.,	Chapman
390.	H.	Sumner avenue, S. W. corner Belmont	Chapman
391.	H.	Forest avenue, about 300 ft. south of Sumner, 6″ S. con.,	Chapman
392.	H.	Hollywood street, N. E. corner Forest, 6″ S. con.,	Chapman
393.	H.	Commonwealth avenue, east side, 350 ft. south of Walden street, 6″ S. con.,	Chapman
394.	H.	Commonwealth avenue, east side, 175 ft. south of Washington street, 6″ S. con.,	Chapman
395.	H.	Fairview street, N. E. corner Groveland avenue, 6″ S. con.,	Chapman
396.	H.	Groveland avenue, N. E. corner Forest, 6″ S. con.,	Chapman
397.	H.	Sorrento ave., N. E. corner Sumner, 6″ S. con.,	Chapman
398.	H.	Sumner avenue, south side, opposite Lester street, 6″ S. con.,	Chapman
399.	H.	Sumner avenue, south side, east of Converse street, 6″ S. con.,	Chapman
400.	H.	Pomona avenue, opposite Granada terrace, 6″ S. con.,	Chapman
401.	H.	Granada terrace, in grass plot at Sorrento avenue, east,	Chapman
402.	H.	Ventura avenue, S. E. corner Granada terrace, 6″ S. con.,	Chapman
403.	H.	Granada terrace, N. E. corner Dickinson street, 6″ S. con.,	Chapman
404.	H.	Berendo avenue, S. E. corner Alderman street, 6″ S. con.,	Chapman
405.	H.	Ventura avenue, S. E. corner Alderman street, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
406.	H.	Dickinson street, west side, opposite Alderman street, 6″ S. con.,	Chapman
407.	H.	Kenwood park, west side, midway, 6″,	Chapman
408.	H.	Kenwood park, S. W. corner Dickinson street, 6″,	Chapman
409.	H.	Johnson street, at Dickinson, 6″,	Chapman
410.	H.	Parker avenue, west side, end of pipe, 6″ S. con.,	Chapman
411.	H.	Oakland street, N. W. corner Dickinson,	Chapman
412.	H.	Crystal avenue, S. W. corner Dickinson street, 6″ S. con.,	Chapman
413.	H.	Hall street, S. W. corner Dickinson,	Chapman
414.	H.	Hall street, west side, midway,	Chapman
415.	H.	N. E. corner Belmont avenue and Hall street,	Chapman
416.	H.	Forest street, east side, about midway,	Chapman
417.	H.	N. E. corner Belmont avenue and Keith street,	Chapman
418.	H.	Keith street, west side, front of No. 51,	Chapman
419.	H.	S. W. corner Keith and Dickinson streets,	Chapman
420.	H.	Euclid avenue, S. W. corner Dickinson street,	Chapman
421.	H.	Euclid avenue, west side, midway,	Chapman
422.	H.	Belmont avenue, N. W. corner Marengo,	Chapman
423.	H.	Marengo avenue, S. W. corner Dickinson street, 6″ S. con.,	Chapman
424.	H.	Marengo avenue, at La Verne, 6″ S. con.,	Chapman
425.	H.	Bellevue avenue, S. E. corner La Verne,	Perkins
426.	H.	Bellevue avenue, S. W. corner Dickinson street,	Chapman
427.	H.	Belmont avenue, east side, opposite No. 134,	Chapman
428.	H.	Woodside avenue, at end of pipe, 6″ S. con.,	Chapman
429.	H.	Park avenue, N. E. corner Fort Pleasant,	Chapman
430.	H.	Chase ave., N. E. corner Fort Pleasant, 6″ S. con.,	Chapman
431.	H.	Chase avenue, N. W. corner Riverview street, 6″ S. con.,	Chapman
432.	H.	Edgeland avenue, north side, midway,	Chapman
433.	H.	Crescent terrace, in park at Fort Pleasant avenue, 6″ S. con.,	Chapman
434.	H.	Leyfred terrace, N. E. corner Belmont avenue, 6″ S. con.,	Chapman
435.	H.	Belmont avenue, west side, at Fort Pleasant,	Chapman
436.	H.	Mill street, south side, midway Locust and Main,	Matthews
437.	H.	Locust street, N. E. corner Mill, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
438.	H.	Mill street, north side, opposite Howard's waste mill,	Perkins
439.	H.	Pine street, north side, at Mill,	Chapman
440.	H.	Warriner avenue, north side, end of pipe,	Chapman
441.	H.	Palmer avenue, north side, 300 feet east of Locust street, 6″ S. con.,	Chapman
442.	L.	Main street, east side, at Locust,	Matthews
443.	H.	Main street, N. E. corner Acushnet avenue, 6″,	Chapman
444.	L.	Acushnet avenue, north side, midway,	Chapman
445.	L.	Acushnet avenue, north side, end of pipe,	Chapman
446.	H.	Main street, N. E. corner Rutledge avenue, 6″,	Chapman
447.	L.	Rutledge avenue, north side, midway,	Perkins
448.	L.	Wendell avenue, 6″ S. con.,	Chapman
449.	H.	Main street, east side, opposite Broad, 6″,	Chapman
450.	H.	Main street, N. E. corner Marble, 6″,	Chapman
451.	L.	Marble street, N. E. corner Main, 6″,	Chapman
452.	L.	Marble street, north side, midway, 6″,	Chapman
453.	L.	Marble street, north side, end of pipe, 6″,	Chapman
454.	H.	Main street, east side, opposite Gardner, 6″,	Chapman
455.	L.	Main street, east side, opposite Gardner,	Perkins
456.	H.	Main street, east side, front of No. 739, 6″,	Chapman
457.	H.	Main street, east side, opposite Lombard, 6″,	Chapman
458.	H.	Main street, S. E. corner Adams, 6″,	Chapman
459.	L.	Adams street, south side, midway,	Chapman
460.	L.	Ashmun street, east side, opposite Adams,	Chapman
461.	L.	Central street, north side, opposite No. 63, 6″ S. con.,	Chapman
462.	H.	Central street, north side, midway Main and Morris, 6″ S. con.,	Chapman
463.	H.	N. E. corner Main and Central streets,	Chapman
464.	H.	N. E. corner Main and Morris streets,	Chapman
465.	L.	Morris street, north side, opposite No. 40,	Chapman
466.	L.	Morris street, east side, at angle,	Chapman
467.	L.	Winthrop street, N. W. corner Dale, 6″ S. con.,	Chapman
468.	L.	Winthrop street, north side, midway, 6″ S. con.,	Chapman
469.	H.	N. E. corner Main and Winthrop streets,	Chapman
470.	H.	N. E. corner Main and William streets,	Chapman
471.	H.	William street, south side, midway Main and Dale,	Chapman

No.	High or Low.	Location.	Make.
472.	L.	N. W. corner William and Dale streets,	Chapman
473.	H.	N. E. corner Willow street and Hubbard avenue,	Chapman
474.	H.	S. E. corner Main street and Hubbard avenue,	Chapman
475.	H.	N. E. corner Main and Union streets,	Chapman
476.	H.	N. E. corner Union and Willow streets,	Perkins
477.	L.	S. E. corner Union and Dale streets,	Chapman
478.	H.	S. W. corner Park and Willow streets,	Perkins
479.	H.	N. E. corner Main and Park streets,	Chapman
480.	H.	S. E. corner Main and Cross streets,	Chapman
481.	H.	N. E. corner Willow and Cross streets, 6″ S. con.,	Chapman
482.	H.	Cross st., south side, midway Maple and Willow,	Chapman
483.	H.	S. E. corner Main street and Crossett avenue,	Chapman
484.	H.	S. E. corner Main and Stockbridge streets,	Chapman
485.	L.	Stockbridge st., S. W. corner Willow, 6″ S. con.,	Chapman
486.	H.	N. E. corner Willow and Stockbridge streets, 6″ S. con.,	Chapman
487.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop,	Perkins
488.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop,	Perkins
489.	H.	S. E. corner State and Willow streets,	Perkins
490.	L.	State street, S. W. corner Willow, 6″ S. con.,	Chapman
491.	H.	N. E. corner State and Dwight streets,	Chapman
492.	L.	N. W. corner State and Dwight streets,	Chapman
493.	H.	N. W. corner State and Market streets,	Chapman
494.	H.	N. E. corner State and Main streets, 6″ S. con.,	Chapman
495.	H.	N. E. corner Main and Sanford streets, 6″ S. con.,	Chapman
496.	L.	S. W. corner Market and Sanford streets,	Chapman
497.	L.	Sanford street, north side, midway Market and Dwight,	Chapman
498.	H.	Sanford street, north side, near Dwight,	Perkins
499.	H.	Sanford street, N. E. corner Market, 6″ S. con.,	Chapman
500.	L.	S. W. corner Dwight and East Court streets,	Chapman
501.	H.	N. W. corner Dwight and East Court streets,	Perkins
502.	L.	Dwight street, S. W. corner New, 6″ S. con.,	Chapman
503.	H.	N. W. corner East Court and New streets,	Chapman
504.	H.	S. W. corner East Court and Market streets,	Chapman
505.	H.	S. E. corner Main and East Court streets,	Matthews
506.	H.	Main street, east side, front of No. 445, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
507.	H.	Main street, east side, front of No. 415, 6″ S. con.,	Chapman
508.	H.	N. E. corner Main street and Townsley avenue,	Matthews
509.	H.	Main street, east side, opposite Pynchon,	Matthews
510.	H.	N. W. corner Market street and Townsley avenue,	Chapman
511.	L.	S. W. corner Harrison avenue and Market street,	Chapman
512.	H.	S. E. corner Main street and Harrison avenue,	Chapman
513.	H.	Harrison avenue, N. E. corner Main street, 6″,	Perkins
514.	H.	Main street, east side, opposite Vernon, 6″,	Matthews
515.	H.	Harrison ave., north side, opposite Market st., 6″,	Chapman
516.	H.	Harrison avenue, north side, front of No. 44, 6″,	Perkins
517.	H.	Harrison avenue, south side, front of No. 37, 6″,	Perkins
518.	H.	Harrison avenue, N. W. corner Dwight street, 6″,	Chapman
519.	L.	S. W. corner Harrison avenue and Dwight street,	Chapman
520.	H.	N. E. corner Harrison avenue and Dwight street,	Perkins
521.	H.	Dwight street, front of No. 109, 6″ S. con.,	Chapman
522.	L.	S. W. corner Dwight and Hillman streets,	Chapman
523.	H.	N. W. corner Dwight and Hillman streets,	Chapman
524.	H.	Hillman street, N. W. corner Barnes, 6″ S. con.,	Chapman
525.	H.	Hillman street, south side, midway,	Chapman
526.	H.	N. E. corner Main and Hillman streets, 6″ S. con.,	Chapman
527.	H.	N. E. corner Main and Bridge streets,	Chapman
528.	L.	Bridge street, S. E. corner Barnes, 6″ S. con.,	Chapman
529.	L.	Bridge street, north side, at Stearns park,	Chapman
530.	L.	Dwight street, S. W. corner Bridge, 6″ S. con.,	Chapman
531.	H.	N. E. corner Bridge and Dwight streets, 6″ S. con.,	Chapman
532.	L.	S. E. corner Worthington and Dwight streets, 6″ S. con.,	Chapman
533.	H.	N. W. corner Worthington and Dwight streets,	Chapman
534.	H.	S. E. corner Worthington street and Stearns ave.,	Chapman
535.	L.	Worthington street, south side, front of No. 99,	Chapman
536.	H.	N. E. corner Main and Worthington streets,	Chapman
537.	H.	Main street, east side, opposite Fort,	Chapman
538.	H.	N. E. corner Main and Taylor streets,	Matthews
539.	H.	Taylor street, south side, front of No. 23,	Matthews
540.	H.	Taylor street, north side, opposite No. 51,	Matthews
541.	H.	N. E. corner Taylor and Dwight streets,	Perkins
542.	H.	Taylor st., north side, front of No. 96, 6″ S. con.,	Chapman
543.	H.	S. E. corner Lyman and Dwight streets,	Perkins

No.	High or Low.	Location.	Make.
544.	L.	Lyman street, north side, opposite Dwight,	Chapman
545.	H.	Lyman street, south side, front of No. 53,	Perkins
546.	L.	Lyman street, north side, opposite Nos. 39-43,	Chapman
547.	H.	Lyman street, north side, opposite Nos. 27-31,	Perkins
548.	H.	N. E. corner Main and Lyman streets,	Matthews
549.	L.	Lyman street, S. E. corner Main, 6″ S. con.,	Chapman
550.	H.	Main st., east side, opposite Hampden, 6″ S. con.,	Chapman
551.	H.	Main street, east side, just south of arch,	Chapman
552.	H.	N. E. corner Chestnut and Lyman streets,	Chapman
553.	H.	Chestnut street, S. W. corner Lyman, 6″,	Chapman
554.	H.	Lyman street, north side, midway Spring and Chestnut,	Chapman
555.	L.	S. E. corner Chestnut and Lyman streets,	Perkins
556.	H.	N. E. corner Chestnut and Taylor streets,	Chapman
557.	L.	Chestnut street, east side, opposite Taylor, 6″ S. con.,	Chapman
558.	H.	N. W. corner Chestnut and Taylor streets,	Chapman
559.	H.	N. E. corner Chestnut and Worthington streets.	Chapman
560.	L.	S. W. corner Chestnut and Worthington streets,	Chapman
561.	H.	Chestnut street, S. W. corner Worthington, 6″,	Chapman
562.	L.	Chestnut street, east side, near Bridge,	Chapman
563.	H.	Chestnut street, N. W. corner Bridge, 6″,	Chapman
564.	L.	S. E. corner Chestnut and Pearl streets,	Chapman
565.	H.	Chestnut street, west side, opposite Pearl, 6″,	Chapman
566.	H.	Chestnut street, west side, opposite Mattoon, 6″,	Chapman
567.	H.	Chestnut street, N. W. corner Harrison ave., 6″,	Chapman
568.	H.	Chestnut street, west side, opposite Edwards, 6″,	Chapman
569.	L.	Edwards street, north side, opposite No. 37,	Perkins
570.	L.	Chestnut street, west side, opposite No. 55,	Chapman
571.	H.	Chestnut street, west side, opposite No. 49, 6″,	Chapman
572.	H.	Chestnut street, west side, opposite Christ church,	Perkins
573.	H.	N. E. corner State and Chestnut sts., 6″ S. con.,	Chapman
574.	H.	State street, north side, near City Library,	Perkins
575.	H.	State street, north side, at Cathedral, 6″ S. con.,	Chapman
576.	H.	N. W. corner State and Elliott streets,	Matthews
577.	L.	Elliott street, west side, front of convent,	Chapman
578.	H.	N. W. corner State and Spring streets,	Matthews
579.	H.	N. E. corner Spring and Frost streets,	Chapman
580.	L.	S. W. corner Spring and Salem streets,	Ayers

No.	High or Low.	Location.	Make.
581.	H.	Spring street, east side, opposite Salem, 6″,	Perkins
582.	L.	Elliott street, S. E. corner Salem, 6″ S. con.,	Chapman
583.	H.	Salem street, north side, opposite Elliott,	Chapman
584.	L.	Pearl street, north side, opposite Salem, 6″ S. con.,	Chapman
585.	H.	S. E. corner Pearl and Spring streets,	Chapman
586.	H.	Pearl street, north side, at Byers,	Chapman
587.	H.	Pearl street, north side, at angle,	Chapman
588.	H.	Pearl street, north side, front of No. 242,	Chapman
589.	H.	N. W. corner Pearl and Federal streets,	Chapman
590.	H.	N. E. corner Worthington and Federal streets,	Perkins
591.	H.	Worthington street, north side, opposite No. 485,	Chapman
592.	H.	N. E. corner Worthington street and Kibbe ave.,	Chapman
593.	H.	Worthington street, north side, opposite Sackett's avenue,	Chapman
594.	L.	S. W. corner Worthington street and Sackett's ave.,	Perkins
595.	H.	Worthington street, north side, opposite No. 377,	Chapman
596.	H.	N. E. corner Worthington and Autumn streets,	Chapman
597.	H.	Worthington street, north side, opposite school-house,	Chapman
598.	L.	Worthington street, S. W. corner Spring, 6″ S. con.,	Chapman
599.	H.	N. E. corner Worthington and Spring streets,	Chapman
600.	H.	N. E. corner Worthington and Alert streets,	Chapman
601.	L.	Worthington street, south side, opposite Alert, 6″ S. con.,	Chapman
602.	H.	N. E. corner Spring and Summer streets,	Chapman
603.	L.	Lyman street, south side, front of Gilbert & Barker's shop,	Chapman
604.	H.	Lyman street, north side, at Spring,	Chapman
605.	L.	Summer street, north side, opposite Autumn,	Perkins
606.	L.	Summer street, south side, front of No. 103,	Perkins
607.	L.	Summer street, south side, front of No. 147,	Perkins
608.	H.	Summer street, S. E. corner Kibbe avenue, 6″,	Chapman
609.	H.	Summer street, S. W. corner Federal, 6″,	Chapman
610.	H.	Armory street, N. W. corner Warwick avenue, 6″ S. con.,	Chapman
611.	H.	Armory street, east side, at paint shops,	Chapman
612.	H.	Armory street court, S. E. corner Armory street avenue, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
613.	H.	Worthington street, N. W. corner Armory, 6″ S. con.,	Chapman
614.	H.	N E. corner Armory and Grant streets,	Chapman
615.	H.	Federal street, west side, at Armory gate,	Matthews
616.	H.	N. E. corner Federal and Lincoln streets,	Perkins
617.	H.	Lincoln street, N W. corner Magazine, S. con.,	Chapman
618.	H.	N. W corner Magazine and Grant streets,	Chapman
619.	H.	S. E. corner Armory and Magazine streets,	Chapman
620.	H.	Worthington street, south side, midway Armory and Bowdoin, 6″ S. con.,	Chapman
621.	H.	S. E. corner Worthington and Bowdoin streets,	Perkins
622.	H.	Bowdoin street, east side, midway Worthington street and St. James avenue,	Chapman
623.	H.	S. E. corner Bowdoin street and Ingersoll grove,	Chapman
624.	H.	Ingersoll grove, east side, at angle,	Chapman
625.	H.	S. W. corner Florida and Worthington streets,	Matthews
626.	H.	S. E. corner Worthington and Thompson streets,	Chapman
627.	H.	Thompson street, east side midway St. James ave. and Worthington street,	Chapman
628.	H.	Dartmouth terrace, east side, front of No. 45,	Chapman
629.	H.	S. W. corner Harvard street and St. James ave.,	Chapman
630.	H.	S. E. corner Harvard and Cornell streets,	Chapman
631.	H.	S. E. corner Cornell and Wellesley streets,	Chapman
632.	H.	S. E. corner Cornell and Princeton streets,	Chapman
633.	H.	S. W. corner St. James avenue and Princeton st.,	Chapman
634.	H.	St. James avenue, west side, opposite Dorchester street,	Chapman
635.	H.	N. E. corner Dorchester and Monmouth streets,	Chapman
636.	H.	N. W. corner Lafayette and Amherst streets,	Chapman
637.	H.	N. W. corner Monmouth and Yale streets,	Chapman
638.	H.	Monmouth street, at Berkeley,	Chapman
639.	H.	N W corner Princeton and Yale streets,	Chapman
640.	H.	Princeton street, south side, between Vassar and Amherst,	Chapman
641.	H.	Harvard street, south side, midway St. James ave. and Yale street,	Chapman
642.	H.	N. W. corner Harvard and Yale streets,	Chapman
643.	H.	N. E. corner Dartmouth and Yale streets,	Chapman
644.	H.	Dartmouth street, north side, midway,	Chapman

No.	High or Low.	Location.	Make.
645.	H.	S. E. corner Dartmouth street and St. James ave.,	Chapman
646.	H.	S. E. corner Clarendon street and St. James ave.,	Chapman
647.	H.	Clarendon street, north side, between Bay street and St. James avenue,	Chapman
648.	H.	S. W. corner Buckingham and Clarendon streets,	Chapman
649.	H.	N. E. corner Buckingham street and Buckingham place,	Chapman
650.	H.	S. E. corner Buckingham and Bay streets,	Chapman
651.	H.	S. E. corner Bay and Westminster streets,	Chapman
652.	H.	Westminster street, east side, midway St. James avenue and Bay street,	Chapman
653.	H.	S. E. corner Westminster street and St. James avenue,	Chapman
654.	H.	S. E. corner Thompson street and St. James ave.,	Chapman
655.	H.	S. E. corner Thompson and Bay streets,	Perkins
656.	H.	S. E. corner Bay and Pleasant streets,	Chapman
657.	H.	S. W. corner Florida street and St. James ave.,	Matthews
658.	H.	N. E. corner St. James avenue and Bowdoin st.,	Chapman
659.	H.	N. E. corner State street and St. James avenue,	Perkins
660.	H.	N. E. corner State and Pleasant streets,	Perkins
661.	H.	N. E. corner State and Westminster streets,	Perkins
662.	H.	Buckingham street, east side, front of No. 69,	Chapman
663.	H.	N. E. corner Sherman and State streets,	Perkins
664.	H.	S. E. corner Sherman and McKnight streets,	Chapman
665.	H.	S. E. corner Sherman and Bay streets,	Chapman
666.	H.	S. E. corner Catharine and Bay streets,	Chapman
667.	H.	N. E. corner Catharine and McKnight streets,	Chapman
668.	H.	Catharine street, east side, front of No. 71,	Chapman
669.	H.	Catharine street, east side, front of No. 37,	Chapman
670.	H.	State street, south side, at Winchester park engine house,	Chapman
671.	H.	State street, north side, at N. E. R. R., 6″ S. con.,	Chapman
672.	H.	Chapin street, east side, midway,	Chapman
673.	H.	Marion street, west side, south end,	Chapman
674.	H.	N. E. corner Bowles and McKnight streets,	Chapman
675.	H.	Bowles st., east side, midway Bay and McKnight,	Chapman
676.	H.	S. E. corner Bowles and Bay streets,	Chapman
677.	H.	Welcome place, east side, end of pipe,	Chapman
678.	H.	Marion street, east side, midway,	Chapman

No.	High or Low.	Location.	Make.
679.	H.	N. W. corner McKnight street and Girard ave.,	Chapman
680.	H.	S. E. corner Bay street and Girard avenue,	Chapman
681.	H.	Clifford street, south side, midway,	Chapman
682.	H.	Bay street, south side, front of No. 401,	Chapman
683.	H.	Dawes street, west side, midway,	Chapman
684.	H.	S. E. corner Bay street and Oak Grove avenue,	Chapman
685.	H.	Cambridge street, east side, front of No. 45,	Chapman
686.	H.	Cambridge street, east side, opposite No. 84,	Chapman
687.	H.	Andrew street, east side, midway,	Chapman
688.	H.	Hayden avenue, east side, midway,	Perkins
689.	H.	N. E. corner State and Andrew streets,	Perkins
690.	H.	Hunter place, west side, midway, 6″ S. con.,	Chapman
691.	H.	Montrose street, east side, midway, 6″,	Chapman
692.	H.	Mapledell street, N. E. corner State, 6″ S. con.,	Chapman
693.	H.	Mapledell street, S. E. corner Burr, S. con.,	Chapman
694.	H.	Oak Grove avenue, N. E. corner State street, 6″ S. con.,	Chapman
695.	H.	College avenue, S. E. corner Shattuck,	Chapman
696.	H.	College avenue, east side, midway State street and Shattuck avenue,	Chapman
697.	H.	State street, north side, N. E. corner College ave.,	Chapman
698.	H.	Maynard avenue, west side, near State street,	Chapman
699.	H.	Willard avenue, west side, front of No. 42,	Chapman
700.	H.	State street, north side, midway Willard avenue and Cortland street,	Chapman
701.	H.	Cortland street, west side, midway,	Chapman
702.	H.	Dresden avenue, east side, midway, 6″ S. con.,	Chapman
703.	H.	State street, north side, opposite Colonial avenue,	Chapman
704.	H.	S. E. corner State and Benton streets,	Chapman
705.	H.	State street, north side, front of Alden Warner's,	Chapman
706.	H.	Boston road, north side, near Jasper st., 6″ S. con.,	Chapman
707.	H.	Coleman street, east side, 388 feet south of Boston road, 6″ S. con.,	Chapman
708.	H.	Denver street, east side, end of pipe,	Chapman
709.	H.	Boston road, north side, opposite Ashby street, 6″ S. con.,	Chapman
710.	H.	Benton avenue, N. E. corner Benton street, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
711.	H.	Benton street, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
712.	H.	Wilbraham road, front of House of Good Shepherd, 6″ S. con.,	Chapman
713.	H.	Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
714.	H.	Carlisle avenue, east side, end of pipe, 6″ S. con.,	Chapman
715.	H.	Norfolk street, S. E. corner Wilbraham road,	Chapman
716.	H.	Norfolk street, east side, end of pipe,	Chapman
717.	H.	Suffolk street, east side, end of pipe,	Chapman
718.	H.	Colonial avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
719.	H.	Middlesex street, corner Wilbraham road,	Chapman
720.	H.	Wellington st., east side, end of pipe, 6″ S. con.,	Chapman
721.	H.	Reed street, N. E. corner Wilbraham road,	Chapman
722.	H.	N. E. corner Wilbraham road and College street,	Chapman
723.	H.	Westford avenue, S. E. corner Wilbraham road, 6″ S. con.,	Chapman
724.	H.	Northampton ave., S. E. corner Wilbraham road,	Chapman
725.	H.	Northampton avenue, east side, at No. 49,	Chapman
726.	H.	Northampton avenue, east side, opposite No. 108,	Chapman
727.	H.	Westford avenue, east side, opposite Gunn square, 6″ S. con.,	Chapman
728.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.,	Chapman
729.	H.	King street, N. W. corner Westford avenue, 6″ S. con.,	Chapman
730.	H.	Wilbraham avenue, N. E. corner King street, 6″ S. con.,	Chapman
731.	H.	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.,	Chapman
732.	H.	Wilbraham ave., east side, just north of No. 151,	Perkins
733.	H.	Wibraham avenue, east side, north of Beverly st.,	Chapman
734.	H.	Wilbraham avenue, east side, front of No. 25,	Chapman
735.	H.	S. E. corner Waltham ave. and Wilbraham road,	Chapman
736.	H.	S. W. corner Colton street and Wilbraham road,	Chapman
737.	H.	S. W. corner Wilbraham road and Eastern ave.,	Chapman
738.	H.	S. E. corner State and Winchester streets,	Chapman
739.	H.	S. E. corner State and Hancock streets,	Perkins

No.	High or Low.	Location.	Make.
740.	H.	N. E. corner Monroe and Hancock streets,	Chapman
741.	H.	Monroe street, north side, front of No. 72,	Perkins
742.	H.	N. W. corner Monroe street and Eastern avenue,	Chapman
743.	H.	N. W. corner Monroe and Colton streets,	Chapman
744.	H.	S. W. corner Colton and Union streets,	Chapman
745.	H.	S. W. corner Union street and Eastern avenue,	Chapman
746.	H.	Union street, south side, front of No. 709,	Chapman
747.	H.	Union street, south side, opposite No. 660,	Chapman
748.	H.	S. E. corner Union and Hancock streets,	Matthews
749.	H.	N. W. corner Hancock and Quincy streets,	Chapman
750.	H.	Quincy street, north side, opposite No. 181,	Chapman
751.	H.	Quincy street, north side, front of No. 230,	Chapman
752.	H.	N. W. corner Quincy street and Eastern avenue,	Chapman
753.	H.	N. W. corner Quincy and Colton streets,	Chapman
754.	H.	N. W. corner Tyler and Colton streets,	Chapman
755.	H.	S. W. corner Tyler street and Eastern avenue,	Chapman
756.	H.	Tyler street, north side, front of No. 220,	Chapman
757.	H.	Tyler street, north side, opposite No. 183,	Chapman
758.	H.	N. W. corner Hancock and Tyler streets,	Matthews
759.	H.	N. W. corner Hancock street and Pendleton ave.,	Perkins
760.	H.	Pendleton avenue, north side, opposite No. 163,	Chapman
761.	H.	Pendleton avenue, north side, opposite No. 209,	Chapman
762.	H.	N. W. corner Pendleton and Eastern avenues,	Chapman
763.	H.	Beacon street, south side, at Colton,	Chapman
764.	H.	King street, N. W. corner Logan,	Chapman
765.	H.	N. W. corner Eastern avenue and King street,	Chapman
766.	H.	King street, north side, front of No. 184,	Chapman
767.	H.	King street, north side, opposite Nelson avenue,	Chapman
768.	H.	N. W. corner Lebanon street and Nelson avenue,	Chapman
769.	H.	N. E. corner King and Hancock streets,	Matthews
770.	H.	N. W. corner Lebanon street and Merrick avenue,	Chapman
771.	H.	Eastern avenue, east side, opposite Lebanon street,	Chapman
772.	H.	N. W. corner Granville and Logan streets,	Chapman
773.	H.	N. W. corner Olive and Logan streets,	Chapman
774.	H.	N. W. corner Ladd and Logan streets,	Chapman
775.	H.	Collins street, near N. W. corner Logan,	Chapman
776.	H.	N. W. corner Greene street and Eastern avenue,	Chapman
777.	H.	Greene street, north side, front of No. 88,	Chapman
778.	H.	N. W. corner Greene street and Nelson avenue,	Chapman

No.	High or Low.	Location.	Make.
779.	H.	N. E. corner Greene and Hancock streets,	Matthews
780.	H.	Alden street, north side, front of No. 24,	Chapman
781.	H.	Alden street, north side, front of No. 86,	Chapman
782.	H.	N. W. corner Alden street and Eastern avenue,	Chapman
783.	H.	Alden street, N. W. corner Logan,	Perkins
784.	H.	Alden street, north side, at Hickory, 6″ S. con.,	Chapman
785.	H.	Hickory street, N. E. corner Woodbine avenue,	Chapman
786.	H.	Hickory street, north side, opposite Smith & Adams' slaughter house,	Chapman
787.	H.	Manhattan street, N. W. corner Eastern avenue,	Chapman
788.	H.	Manhattan street, north side, midway,	Chapman
789.	H.	N. E. corner Manhattan and Walnut streets,	Chapman
790.	H.	Walnut street, east side, opposite No. 396,	Matthews
791.	H.	Eastern avenue, S. W. corner Marshall place, 6″ S. con.,	Chapman
792.	H.	Melrose street, N. W. corner Eastern avenue, 5″ S. con.,	Chapman
793.	H.	Melrose street, north side, midway, 5″ S. con.,	Chapman
794.	H.	Hickory street, north side, at No. 130, 6″ S. con.,	Chapman
795.	H.	Hickory street, north side, at No. 110, 6″ S. con.,	Chapman
796.	H.	N. E. corner Hickory and Walnut streets,	Matthews
797.	H.	Allen street, north side, at White,	Chapman
798.	H.	Allen street, north side, near No. 121,	Chapman
799.	H.	Hunt terrace, end of 4″ pipe,	Chapman
800.	H.	Randall avenue, west side, end of pipe,	Chapman
801.	H.	Allen street, north side, opposite No. 228,	Chapman
802.	H.	Allen street, north side, west of N. E. R. R.,	Chapman
803.	H.	Allen street, north side, just east of N. E. R. R.,	Perkins
804.	H.	Allen street, north side, midway N. E. R. R. and Plumtree road,	Perkins
805.	H.	Allen street, N. W. corner Plumtree road,	Chapman
806.	H.	Irvington avenue, at end of pipe, 6″ S. con.,	Chapman
807.	H.	White street, west side, south of Dawson avenue,	Chapman
808.	H.	Johnson street, north side, near Pasadena avenue,	Perkins
809.	H.	Bloomfield street, N. W. corner Pasadena avenue, 6″ S. con.,	Chapman
810.	H.	White street, west side, front of No. 74,	Chapman
811.	H.	White street, west side, opposite church,	Chapman
812.	H.	Orange st., east of White, end of pipe, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
813.	H.	—Orange street, S. W. corner Ranney,	Chapman
814.	H.	—Grand avenue, between Ozark and Wareham sts., 6″ S. con.,	Chapman
815.	H.	—Orange street, south side, between Revere and Malden, 6″ S. con.,	Chapman
816.	H.	—Revere street, N. E. corner Grand ave., 6″ S. con.,	Chapman
817.	H.	—Malden street, N. E. corner Grand ave., 6″ S. con.,	Chapman
818.	H.	—Highland street, N. W. corner Orange,	Chapman
819.	H.	—Noel avenue, N. W. corner Shamrock,	Chapman
820.	H.	—Noel avenue, east side, end of pipe,	Chapman
821.	H.	—Highland street, N. W. corner Shamrock avenue,	Chapman
822.	H.	—S. W. corner Highland and Allen streets,	Chapman
823.	H.	—S. W. corner Mill and Allen streets,	Chapman
824.	H.	—N. E. corner Mill and Central streets,	Matthews
825.	H.	—S. E. corner Hancock and Central streets,	Matthews
826.	H.	—Hancock street, west side, south of Central, at end,	Chapman
827.	H.	—Mill street, south side, opposite Maple,	Chapman
828.	H.	—Cherry street, north side, just west of No. 92,	Chapman
829.	H.	—Cherry street, north side, opposite No. 51,	Chapman
830.	H.	—N. W. corner Cherry and Central streets,	Chapman
831.	H.	—N. E. corner Spruce and Central sts., 6″ S. con.,	Chapman
832.	H.	—Spruce street, east side, front of No. 34,	Perkins
833.	H.	—Hancock avenue, N. E. corner Spruce street, 6″ S. con.,	Chapman
834.	H.	—Hancock avenue, north side, midway, S. con.,	Chapman
835.	H.	—N. W. corner Hancock street and Hancock ave.,	Chapman
836.	H.	—N. W. corner Hancock and Hawthorn streets,	Chapman
837.	H.	—Hawthorn street, north side, midway,	Chapman
838.	H.	—S. W. corner Hancock and Florence streets,	Matthews
839.	H.	—S. W. corner Florence and Spruce streets,	Matthews
840.	H.	—Beech street, east side, midway,	Chapman
841.	H.	—Central street avenue, S. W. corner Central street, 6″ S. con.,	Chapman
842.	H.	—Foster court, west roadway,	Chapman
843.	H.	—Foster court, east roadway,	Chapman
844.	H.	—Central street, south side, front of No. 319,	Matthews
845.	H.	—N. E. corner Pine and Central streets,	Perkins
846.	H.	—N. E. corner Pine and Cedar streets,	Matthews

174057

No.	High or Low.	Location.	Make.
847.	H.	Ashley street, north side, opposite No. 49,	Chapman
848.	H.	Ashley street, north side, front of No. 92,	Chapman
849.	H.	N. W. corner Ashley and Walnut streets,	Chapman
850.	H.	Belgrade place, N. W. corner Walnut street,	Chapman
851.	H.	N. W. corner Cedar and Walnut streets,	Perkins
852.	H.	N. W. corner Lebanon and Hancock streets,	Matthews
853.	H.	Queen street, north side, opposite No. 43,	Chapman
854.	H.	N. W. corner Walnut and James streets,	Matthews
855.	H.	James street, west side, midway,	Chapman
856.	H.	King st., north side, midway Hancock and Walnut,	Chapman
857.	H.	S. E. corner Pendleton avenue and Walnut street,	Perkins
858.	H.	N. E. corner Pendleton avenue and Orleans street,	Chapman
859.	H.	N. E. corner Tyler and Orleans streets,	Perkins
860.	H.	Tyler st., north side, front of Blake Mfg. Co.'s shop,	Perkins
861.	H.	N. E. corner Quincy and Stebbins streets,	Chapman
862.	H.	N. W. corner Quincy and Orleans streets,	Chapman
863.	H.	N. E. corner Quincy and Oak streets,	Perkins
864.	H.	S. W. corner Oak street and Charter avenue,	Chapman
865.	H.	N. E. corner Union and Orleans streets,	Perkins
866.	H.	N. W. corner Union and Stebbins streets,	Perkins
867.	H.	Terrence street, east side, midway,	Matthews
868.	H.	S. E. corner State and Orleans streets,	Matthews
869.	H.	Lillian street, north side, opposite No. 17,	Chapman
870.	H.	State street, north side, midway Benton park,	Perkins
871.	H.	S. E. corner State and Walnut streets, 6″ S. con.,	Chapman
872.	H.	N. E. corner Walnut street and Charter avenue,	Perkins
873.	H.	State street, north side, opposite Woodworth ave., 6″ S. con.,	Chapman
874.	H.	State street, north side, near Olivet church,	Matthews
875.	H.	S. W. corner High street and Ingraham avenue,	Perkins
876.	H.	Union street, north side, opposite Mulberry,	Perkins
877.	H.	Ridgewood terrace, at end of pipe, 4″,	Chapman
878.	H.	S. W. corner Walnut and Union streets,	Perkins
879.	H.	Dymon street, north side, midway,	Chapman
880.	H.	Walnut street, east side, at Oak,	Perkins
881.	H.	Pine street, east side, opposite No. 55,	Chapman
882.	H.	Pine street, east side, opposite No. 109,	Chapman
883.	H.	Madison avenue, east side, north end,	Chapman
884.	H.	Central street, at Sterns terrace, 6″,	Chapman

No.	High or Low.	Location.	Make.
885.	H.	S. E. corner Central and Cedar streets,	Matthews
886.	H.	Pine street, north side, opposite No. 239,	Perkins
887.	H.	N. W. corner Maple and Pine streets, 6″,	Perkins
888.	H.	Maple avenue, 350 feet east of Maple street, 6″,	Chapman
889.	H.	Maple st., east side, front of Mrs. S. J. Gordon's,	Matthews
890.	H.	Central street, north side, east of Maple,	Matthews
891.	H.	N. E. corner Maple street and Avon place,	Chapman
892.	H.	Avon place, north side, midway,	Chapman
893.	L.	Maple street, west side, front of No. 140, 6″ S. con.,	Chapman
894.	H.	S. E. corner Maple and Mulberry streets,	Chapman
895.	H.	N. E. corner School and Mulberry streets,	Perkins
896.	H.	Ridgewood place, N. W. corner Mulberry street,	Chapman
897.	H.	Ridgewood place, S. W. corner Union street,	Chapman
898.	H.	N. E. corner Union and School streets,	Perkins
899.	H.	Union st., north side, midway School and Maple,	Chapman
900.	H.	N. E. corner Union and Maple streets,	Chapman
901.	L.	Maple street, front of No. 104, 6″ S. con.,	Chapman
902.	L.	Maple street, S. W. corner Park, 6″ S. con.,	Chapman
903.	H.	Maple street, west side, opposite High,	Chapman
904.	H.	High street, south side, opposite No. 36, 6″ S. con.,	Chapman
905.	H.	S. W. corner Maple and Stockbridge streets,	Perkins
906.	H.	S. E. corner Maple and Temple streets,	Chapman
907.	L.	S. E. corner Maple and Temple streets, 6″ S. con.,	Chapman
908.	H.	Temple street, south side, front of No. 46,	Chapman
909.	H.	S. W. corner School and Temple streets,	Chapman
910.	H.	N. E. corner High and School streets,	Perkins
911.	H.	Myrtle street, east side, midway,	Perkins
912.	H.	State street, south side, front of No. 345,	Perkins
913.	L.	State street, south side, at High school, 6″ S. con.,	Chapman
914.	L.	State street, south side, at Unity church, 6″ S. con.,	Chapman
915.	H.	Five Mile pond, at pumping station,	Chapman

INDIAN ORCHARD.

No.	High or Low.	Location.	Make.
1.	H.	N. E. corner Berkshire and Chestnut streets,	Perkins
2.	H.	Hampden street, S. E. corner Chestnut,	Chapman
3.	H.	S. E. corner Hampden and Myrtle streets,	Perkins

No.	High or Low.	Location.	Make.
645.	H.	S. E. corner Dartmouth street and St. James ave.,	Chapman
646.	H.	S. E. corner Clarendon street and St. James ave.,	Chapman
647.	H.	Clarendon street, north side, between Bay street and St. James avenue,	Chapman
648.	H.	S. W. corner Buckingham and Clarendon streets,	Chapman
649.	H.	N. E. corner Buckingham street and Buckingham place,	Chapman
650.	H.	S. E. corner Buckingham and Bay streets,	Chapman
651.	H.	S. E. corner Bay and Westminster streets,	Chapman
652.	H.	Westminster street, east side, midway St. James avenue and Bay street,	Chapman
653.	H.	S. E. corner Westminster street and St. James avenue,	Chapman
654.	H.	S. E. corner Thompson street and St. James ave.,	Chapman
655.	H.	S. E. corner Thompson and Bay streets,	Perkins
656.	H.	S. E. corner Bay and Pleasant streets,	Chapman
657.	H.	S. W. corner Florida street and St. James ave.,	Matthews
658.	H.	N. E. corner St. James avenue and Bowdoin st.,	Chapman
659.	H.	N. E. corner State street and St. James avenue,	Perkins
660.	H.	N. E. corner State and Pleasant streets,	Perkins
661.	H.	N. E. corner State and Westminster streets,	Perkins
662.	H.	Buckingham street, east side, front of No. 69,	Chapman
663.	H.	N. E. corner Sherman and State streets,	Perkins
664.	H.	S. E. corner Sherman and McKnight streets,	Chapman
665.	H.	S. E. corner Sherman and Bay streets,	Chapman
666.	H.	S. E. corner Catharine and Bay streets,	Chapman
667.	H.	N. E. corner Catharine and McKnight streets,	Chapman
668.	H.	Catharine street, east side, front of No. 71,	Chapman
669.	H.	Catharine street, east side, front of No. 37,	Chapman
670.	H.	State street, south side, at Winchester park engine house,	Chapman
671.	H.	State street, north side, at N. E. R. R., 6″ S. con.,	Chapman
672.	H.	Chapin street, east side, midway,	Chapman
673.	H.	Marion street, west side, south end,	Chapman
674.	H.	N E. corner Bowles and McKnight streets,	Chapman
675.	H.	Bowles st., east side, midway Bay and McKnight,	Chapman
676.	H.	S. E. corner Bowles and Bay streets,	Chapman
677.	H.	Welcome place, east side, end of pipe,	Chapman
678.	H.	Marion street, east side, midway,	Chapman

No.	High or Low.	Location.	Make.
679.	H.	N. W. corner McKnight street and Girard ave.,	Chapman
680.	H.	S. E. corner Bay street and Girard avenue,	Chapman
681.	H.	Clifford street, south side, midway,	Chapman
682.	H.	Bay street, south side, front of No. 401,	Chapman
683.	H.	Dawes street, west side, midway,	Chapman
684.	H.	S. E. corner Bay street and Oak Grove avenue,	Chapman
685.	H.	Cambridge street, east side, front of No. 45,	Chapman
686.	H.	Cambridge street, east side, opposite No. 84,	Chapman
687.	H.	Andrew street, east side, midway,	Chapman
688.	H.	Hayden avenue, east side, midway,	Perkins
689.	H.	N E. corner State and Andrew streets,	Perkins
690.	H.	Hunter place, west side, midway 6″ S. con.,	Chapman
691.	H.	Montrose street, east side, midway, 6″,	Chapman
692.	H.	Mapledell street, N. E. corner State, 6″ S. con.,	Chapman
693.	H.	Mapledell street, S. E. corner Burr, S. con.,	Chapman
694.	H.	Oak Grove avenue, N. E. corner State street, 6″ S. con.,	Chapman
695.	H.	College avenue, S. E. corner Shattuck,	Chapman
696.	H.	College avenue, east side, midway State street and Shattuck avenue,	Chapman
697.	H.	State street, north side, N. E. corner College ave.,	Chapman
698.	H.	Maynard avenue, west side, near State street,	Chapman
699.	H.	Willard avenue, west side, front of No. 42,	Chapman
700.	H.	State street, north side, midway Willard avenue and Cortland street,	Chapman
701.	H.	Cortland street, west side, midway,	Chapman
702.	H.	Dresden avenue, east side, midway, 6″ S. con.,	Chapman
703.	H.	State street, north side, opposite Colonial avenue,	Chapman
704.	H.	S. E. corner State and Benton streets,	Chapman
705.	H.	State street, north side, front of Alden Warner's,	Chapman
706.	H.	Boston road, north side, near Jasper st., 6″ S. con.,	Chapman
707.	H.	Coleman street, east side, 388 feet south of Boston road, 6″ S. con.,	Chapman
708.	H.	Denver street, east side, end of pipe,	Chapman
709.	H.	Boston road, north side, opposite Ashby street, 6″ S. con.,	Chapman
710.	H.	Benton avenue, N. E. corner Benton street, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
711.	H.	Benton street, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
712.	H.	Wilbraham road, front of House of Good Shepherd, 6″ S. con.,	Chapman
713.	H.	Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
714.	H.	Carlisle avenue, east side, end of pipe, 6″ S. con.,	Chapman
715.	H.	Norfolk street, S. E. corner Wilbraham road,	Chapman
716.	H.	Norfolk street, east side, end of pipe,	Chapman
717.	H.	Suffolk street, east side, end of pipe,	Chapman
718.	H.	Colonial avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
719.	H.	Middlesex street, corner Wilbraham road,	Chapman
720.	H.	Wellington st., east side, end of pipe, 6″ S. con.,	Chapman
721.	H.	Reed street, N. E. corner Wilbraham road,	Chapman
722.	H.	N. E. corner Wilbraham road and College street,	Chapman
723.	H.	Westford avenue, S. E. corner Wilbraham road, 6″ S. con.,	Chapman
724.	H.	Northampton ave., S. E. corner Wilbraham road,	Chapman
725.	H.	Northampton avenue, east side, at No. 49,	Chapman
726.	H.	Northampton avenue, east side, opposite No. 108,	Chapman
727.	H.	Westford avenue, east side, opposite Gunn square, 6″ S. con.,	Chapman
728.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.,	Chapman
729.	H.	King street, N. W. corner Westford avenue, 6″ S. con.,	Chapman
730.	H.	Wilbraham avenue, N. E. corner King street, 6″ S. con.,	Chapman
731.	H.	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.,	Chapman
732.	H.	Wilbraham ave., east side, just north of No. 151,	Perkins
733.	H.	Wibraham avenue, east side, north of Beverly st.,	Chapman
734.	H.	Wilbraham avenue, east side, front of No. 25,	Chapman
735.	H.	S. E. corner Waltham ave. and Wilbraham road,	Chapman
736.	H.	S. W. corner Colton street and Wilbraham road,	Chapman
737.	H.	S. W. corner Wilbraham road and Eastern ave.,	Chapman
738.	H.	S. E. corner State and Winchester streets,	Chapman
739.	H.	S. E. corner State and Hancock streets,	Perkins

No.	High or Low.	Location.	Make.
740.	H.	N. E. corner Monroe and Hancock streets,	Chapman
741.	H.	Monroe street, north side, front of No. 72,	Perkins
742.	H.	N. W. corner Monroe street and Eastern avenue,	Chapman
743.	H.	N. W. corner Monroe and Colton streets,	Chapman
744.	H.	S. W. corner Colton and Union streets,	Chapman
745.	H.	S. W. corner Union street and Eastern avenue,	Chapman
746.	H.	Union street, south side, front of No. 709,	Chapman
747.	H.	Union street, south side, opposite No. 660,	Chapman
748.	H.	S. E. corner Union and Hancock streets,	Matthews
749.	H.	N. W. corner Hancock and Quincy streets,	Chapman
750.	H.	Quincy street, north side, opposite No. 181,	Chapman
751.	H.	Quincy street, north side, front of No. 230,	Chapman
752.	H.	N. W. corner Quincy street and Eastern avenue,	Chapman
753.	H.	N. W. corner Quincy and Colton streets,	Chapman
754.	H.	N. W. corner Tyler and Colton streets,	Chapman
755.	H.	S. W. corner Tyler street and Eastern avenue,	Chapman
756.	H.	Tyler street, north side, front of No. 220,	Chapman
757.	H.	Tyler street, north side, opposite No. 183,	Chapman
758.	H.	N. W. corner Hancock and Tyler streets,	Matthews
759.	H.	N. W. corner Hancock street and Pendleton ave.,	Perkins
760.	H.	Pendleton avenue, north side, opposite No. 163,	Chapman
761.	H.	Pendleton avenue, north side, opposite No. 209,	Chapman
762.	H.	N. W. corner Pendleton and Eastern avenues,	Chapman
763.	H.	Beacon street, south side, at Colton,	Chapman
764.	H.	King street, N. W. corner Logan,	Chapman
765.	H.	N. W. corner Eastern avenue and King street,	Chapman
766.	H.	King street, north side, front of No. 184,	Chapman
767.	H.	King street, north side, opposite Nelson avenue,	Chapman
768.	H.	N. W. corner Lebanon street and Nelson avenue,	Chapman
769.	H.	N. E. corner King and Hancock streets,	Matthews
770.	H.	N. W. corner Lebanon street and Merrick avenue,	Chapman
771.	H.	Eastern avenue, east side, opposite Lebanon street,	Chapman
772.	H.	N. W. corner Granville and Logan streets,	Chapman
773.	H.	N. W. corner Olive and Logan streets,	Chapman
774.	H.	N. W. corner Ladd and Logan streets,	Chapman
775.	H.	Collins street, near N. W. corner Logan,	Chapman
776.	H.	N. W. corner Greene street and Eastern avenue,	Chapman
777.	H.	Greene street, north side, front of No. 88,	Chapman
778.	H.	N. W. corner Greene street and Nelson avenue,	Chapman

No.	High or Low.	Location.	Make.
779.	H.	N. E. corner Greene and Hancock streets,	Matthews
780.	H.	Alden street, north side, front of No. 24,	Chapman
781.	H.	Alden street, north side, front of No. 86,	Chapman
782.	H.	N. W. corner Alden street and Eastern avenue,	Chapman
783.	H.	Alden street, N. W. corner Logan,	Perkins
784.	H.	Alden street, north side, at Hickory, 6″ S. con.,	Chapman
785.	H.	Hickory street, N. E. corner Woodbine avenue,	Chapman
786.	H.	Hickory street, north side, opposite Smith & Adams' slaughter house,	Chapman
787.	H.	Manhattan street, N. W. corner Eastern avenue,	Chapman
788.	H.	Manhattan street, north side, midway,	Chapman
789.	H.	N. E. corner Manhattan and Walnut streets,	Chapman
790.	H.	Walnut street, east side, opposite No. 396,	Matthews
791.	H.	Eastern avenue, S. W. corner Marshall place, 6″ S. con.,	Chapman
792.	H.	Melrose street, N. W. corner Eastern avenue, 5″ S. con.,	Chapman
793.	H.	Melrose street, north side, midway, 5″ S. con.,	Chapman
794.	H.	Hickory street, north side, at No. 130, 6″ S. con.,	Chapman
795.	H.	Hickory street, north side, at No. 110, 6″ S. con.,	Chapman
796.	H.	N. E. corner Hickory and Walnut streets,	Matthews
797.	H.	Allen street, north side, at White,	Chapman
798.	H.	Allen street, north side, near No. 121,	Chapman
799.	H.	Hunt terrace, end of 4″ pipe,	Chapman
800.	H.	Randall avenue, west side, end of pipe,	Chapman
801.	H.	Allen street, north side, opposite No. 228,	Chapman
802.	H.	Allen street, north side, west of N. E. R. R.,	Chapman
803.	H.	Allen street, north side, just east of N. E. R. R.,	Perkins
804.	H.	Allen street, north side, midway N. E. R. R. and Plumtree road,	Perkins
805.	H.	Allen street, N. W. corner Plumtree road,	Chapman
806.	H.	Irvington avenue, at end of pipe, 6″ S. con.,	Chapman
807.	H.	White street, west side, south of Dawson avenue,	Chapman
808.	H.	Johnson street, north side, near Pasadena avenue,	Perkins
809.	H.	Bloomfield street, N. W. corner Pasadena avenue, 6″ S. con.,	Chapman
810.	H.	White street, west side, front of No. 74,	Chapman
811.	H.	White street, west side, opposite church,	Chapman
812.	H.	Orange st., east of White, end of pipe, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
813.	H.	—Orange street, S. W. corner Ranney,	Chapman
814.	H.	—Grand avenue, between Ozark and Wareham sts., 6″ S. con.,	Chapman
815.	H.	—Orange street, south side, between Revere and Malden, 6″ S. con.,	Chapman
816.	H.	—Revere street, N. E. corner Grand ave., 6″ S. con.,	Chapman
817.	H.	—Malden street, N. E. corner Grand ave., 6″ S. con.,	Chapman
818.	H.	—Highland street, N. W. corner Orange,	Chapman
819.	H.	—Noel avenue, N. W. corner Shamrock,	Chapman
820.	H.	—Noel avenue, east side, end of pipe,	Chapman
821.	H.	—Highland street, N. W. corner Shamrock avenue,	Chapman
822.	H.	—S. W. corner Highland and Allen streets,	Chapman
823.	H.	—S. W. corner Mill and Allen streets,	Chapman
824.	H.	—N. E. corner Mill and Central streets,	Matthews
825.	H.	—S. E. corner Hancock and Central streets,	Matthews
826.	H.	—Hancock street, west side, south of Central, at end,	Chapman
827.	H.	—Mill street, south side, opposite Maple,	Chapman
828.	H.	—Cherry street, north side, just west of No. 92,	Chapman
829.	H.	—Cherry street, north side, opposite No. 51,	Chapman
830.	H.	—N. W. corner Cherry and Central streets,	Chapman
831.	H.	—N. E. corner Spruce and Central sts., 6″ S. con.,	Chapman
832.	H.	—Spruce street, east side, front of No. 34,	Perkins
833.	H.	—Hancock avenue, N. E. corner Spruce street, 6″ S. con.,	Chapman
834.	H.	—Hancock avenue, north side, midway, S. con.,	Chapman
835.	H.	—N. W. corner Hancock street and Hancock ave.,	Chapman
836.	H.	—N. W. corner Hancock and Hawthorn streets,	Chapman
837.	H.	—Hawthorn street, north side, midway,	Chapman
838.	H.	—S. W. corner Hancock and Florence streets,	Matthews
839.	H.	—S. W. corner Florence and Spruce streets,	Matthews
840.	H.	—Beech street, east side, midway,	Chapman
841.	H.	—Central street avenue, S. W. corner Central street, 6″ S. con.,	Chapman
842.	H.	—Foster court, west roadway,	Chapman
843.	H.	—Foster court, east roadway,	Chapman
844.	H.	—Central street, south side, front of No. 319,	Matthews
845.	H.	—N. E. corner Pine and Central streets,	Perkins
846.	H.	—N. E. corner Pine and Cedar streets,	Matthews

174057

No.	High or Low.	Location.	Make.
847.	H.	—Ashley street, north side, opposite No. 49,	Chapman
848.	H.	—Ashley street, north side, front of No. 92,	Chapman
849.	H.	—N. W. corner Ashley and Walnut streets,	Chapman
850.	H.	—Belgrade place, N. W. corner Walnut street,	Chapman
851.	H.	—N. W. corner Cedar and Walnut streets,	Perkins
852.	H.	—N. W. corner Lebanon and Hancock streets,	Matthews
853.	H.	—Queen street, north side, opposite No. 43,	Chapman
854.	H.	—N. W. corner Walnut and James streets,	Matthews
855.	H.	—James street, west side, midway,	Chapman
856.	H.	—King st., north side, midway Hancock and Walnut,	Chapman
857.	H.	—S. E. corner Pendleton avenue and Walnut street,	Perkins
858.	H.	—N. E. corner Pendleton avenue and Orleans street,	Chapman
859.	H.	—N. E. corner Tyler and Orleans streets,	Perkins
860.	H.	—Tyler st., north side, front of Blake Mfg. Co.'s shop,	Perkins
861.	H.	—N. E. corner Quincy and Stebbins streets,	Chapman
862.	H.	—N. W. corner Quincy and Orleans streets,	Chapman
863.	H.	—N. E. corner Quincy and Oak streets,	Perkins
864.	H.	—S. W. corner Oak street and Charter avenue,	Chapman
865.	H.	—N. E. corner Union and Orleans streets,	Perkins
866.	H.	—N. W. corner Union and Stebbins streets,	Perkins
867.	H.	—Terrence street, east side, midway,	Matthews
868.	H.	—S. E. corner State and Orleans streets,	Matthews
869.	H.	—Lillian street, north side, opposite No. 17,	Chapman
870.	H.	—State street, north side, midway Benton park,	Perkins
871.	H.	—S. E. corner State and Walnut streets, 6″ S. con.,	Chapman
872.	H.	—N. E. corner Walnut street and Charter avenue,	Perkins
873.	H.	—State street, north side, opposite Woodworth ave., 6″ S. con.,	Chapman
874.	H.	—State street, north side, near Olivet church,	Matthews
875.	H.	—S. W. corner High street and Ingraham avenue,	Perkins
876.	H.	—Union street, north side, opposite Mulberry,	Perkins
877.	H.	—Ridgewood terrace, at end of pipe, 4″,	Chapman
878.	H.	—S. W. corner Walnut and Union streets,	Perkins
879.	H.	—Dymon street, north side, midway,	Chapman
880.	H.	—Walnut street, east side, at Oak,	Perkins
881.	H.	—Pine street, east side, opposite No. 55,	Chapman
882.	H.	—Pine street, east side, opposite No. 109,	Chapman
883.	H.	—Madison avenue, east side, north end,	Chapman
884.	H.	—Central street, at Sterns terrace, 6″,	Chapman

No.	High or Low.	Location.	Make.
885.	H.	S. E. corner Central and Cedar streets,	Matthews
886.	H.	Pine street, north side, opposite No. 239,	Perkins
887.	H.	N. W. corner Maple and Pine streets, 6",	Perkins
888.	H.	Maple avenue, 350 feet east of Maple street, 6",	Chapman
889.	H.	Maple st., east side, front of Mrs. S. J. Gordon's,	Matthews
890.	H.	Central street, north side, east of Maple,	Matthews
891.	H.	N. E. corner Maple street and Avon place,	Chapman
892.	H.	Avon place, north side, midway,	Chapman
893.	L.	Maple street, west side, front of No. 140, 6" S. con.,	Chapman
894.	H.	S. E. corner Maple and Mulberry streets,	Chapman
895.	H.	N. E. corner School and Mulberry streets,	Perkins
896.	H.	Ridgewood place, N. W. corner Mulberry street,	Chapman
897.	H.	Ridgewood place, S. W. corner Union street,	Chapman
898.	H.	N. E. corner Union and School streets,	Perkins
899.	H.	Union st., north side, midway School and Maple,	Chapman
900.	H.	N. E. corner Union and Maple streets,	Chapman
901.	L.	Maple street, front of No. 104, 6" S. con.,	Chapman
902.	L.	Maple street, S. W. corner Park, 6" S. con.,	Chapman
903.	H.	Maple street, west side, opposite High,	Chapman
904.	H.	High street, south side, opposite No. 36, 6" S. con.,	Chapman
905.	H.	S. W. corner Maple and Stockbridge streets,	Perkins
906.	H.	S. E. corner Maple and Temple streets,	Chapman
907.	L.	S. E. corner Maple and Temple streets, 6" S. con.,	Chapman
908.	H.	Temple street, south side, front of No. 46,	Chapman
909.	H.	S. W. corner School and Temple streets,	Chapman
910.	H.	N. E. corner High and School streets,	Perkins
911.	H.	Myrtle street, east side, midway,	Perkins
912.	H.	State street, south side, front of No. 345,	Perkins
913.	L.	State street, south side, at High school, 6" S. con.,	Chapman
914.	L.	State street, south side, at Unity church, 6" S. con.,	Chapman
915.	H.	Five Mile pond, at pumping station,	Chapman

INDIAN ORCHARD.

No.	High or Low.	Location.	Make.
1.	H.	N. E. corner Berkshire and Chestnut streets,	Perkins
2.	H.	Hampden street, S. E. corner Chestnut,	Chapman
3.	H.	S. E. corner Hampden and Myrtle streets,	Perkins

No.	High or Low.	Location.	Make.
4.	H.	S. W. corner Hampden and Oak streets,	Chapman
5.	H.	S. W. corner Worcester and Oak streets,	Chapman
6.	H.	Worcester street, midway Myrtle and Oak, 6″,	Chapman
7.	H.	S. W. corner Worcester and Myrtle streets,	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets,	Chapman
9.	H.	Main street, north side, west end of park,	Perkins
10.	H.	N. W. corner Main and Myrtle streets,	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6″,	Chapman
12.	H.	N. E. corner Main and Oak streets,	Chapman
13.	H.	S. E. corner Water and Oak streets,	Chapman
14.	H.	Center street, north side, 320 ft. east of Oak,	Chapman
15.	H.	Center street, north side, 320 ft. west of Cedar,	Chapman
16.	H.	S. W. corner Main and Pine streets,	Perkins
17.	H.	N. W. corner Worcester and Pine streets,	Chapman
18.	H.	Worcester st., north side, 600 ft. east of Pine, 6″,	Chapman
19.	H.	Main street, south side, at French church, 6″,	Chapman
20.	H.	S. W. corner Water and Cedar streets,	Chapman
21.	H.	N. W. corner Main and Cedar streets,	Perkins
22.	H.	Main street, midway Cedar and Quebec,	Chapman
23.	H.	Main street, N. W. corner Quebec,	Chapman
24.	H.	Worcester street, at end of pipe, 4″,	Chapman
25.	H.	Milton street, S. E. corner Main, 6″,	Chapman
26.	H.	Milton street, east side, end of pipe, 6″,	Chapman
27.	H.	Beaudry street, east side, end of pipe, 6″,	Chapman
28.	H.	Main street, north side, east of Beaudry, 6″,	Chapman
29.	H.	Main street, near Wilbraham line,	Chapman
30.	H.	Parker street, S. W. corner Main,	Chapman
31.	H.	Ludlow Mfg. Co.'s new street "C" (not yet named), S.E. corner new st. "A" (near Parker, I. O.), 4″,	Chapman
32.	H.	Parker street, west side, 1,200 ft. south of Main,	Chapman
33.	H.	Parker street, near old schoolhouse, 6″,	Chapman
34.	H.	Parker street, 400 ft. north of Oak, 6″,	Chapman
35.	H.	Parker street, south of railroad,	Chapman
36.	H.	Oak street, near railroad station, 6″,	Chapman
37.	H.	Oak street, east side, opposite John Ferris's,	Chapman
38.	H.	Oak street, N. E. corner High, 4″,	Chapman
39.	H.	Oak street, east side, opposite No. 194,	Chapman
40.	H.	Oak street, west side, south of Essex,	Chapman
41.	H.	Oak street, S. W. corner Essex,	Chapman

No.	High or Low.	Location.	Make.
42.	H.	Pasco street, S. E. corner Essex, 6″,	Chapman
43.	H.	Pasco street, east side, end of pipe,	Chapman
44.	H.	Pine street, at Chapman Valve works,	Chapman
45.	H.	N. W. corner Hampshire and Pine streets,	Chapman
46.	H.	N. E. corner Hampshire and Oak streets,	Chapman
47.	H.	Berkshire street, north side, west of Oak,	Chapman
48.	H.	N. E. corner Berkshire and Myrtle streets,	Perkins
49.	H.	N. W corner Hampshire and Myrtle streets,	Chapman

FIRE RESERVOIRS.

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1
Bridge street, at Water,	1
Central street, opposite Beech,	1
Elm street, at First church,	1
Ferry street, at Main,	1
Hampden street, at Main,	1
Harrison avenue, at Main street,	1
Howard street, at Main,	1
Lyman street, at Dwight,	1
Main street, at Court square,	1
Main street, at Franklin,	1
Main street, near Patton,	1
Main street, at State,	1
Maple street, at Central,	1
Pine street, at Central,	1
Pynchon street, near Water,	1
State street, near Elliott,	1
Walnut street, at Hancock,	1
Water street, opposite Walker,	1
Total,	19

STREET WATERING HYDRANTS.

CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

No.	Location.	Service.
1.	Water street, S. E. corner of Worthington,	Low
2.	Cypress street, S. W. corner of Main,	High
3.	Main stret, S. E. corner of Tenth,	High
4.	Fulton street, N. E. corner of Auburn,	Low
5.	North Main street, near Carew,	High
6.	Plainfield street, N. W. corner of John,	Low
7.	Plainfield street, east side, midway Lowell and Washburn,	Low
8.	Plainfield street, at Clayton,	Low
9.	Hyde avenue, N. E. corner of Plainfield street,	High
10.	North Main street, east side, opposite Grace,	Low
11.	Springfield street, S. E. corner of Chestnut,	High
12.	North Main street, east side, opposite Douglas,	High
13.	Alexander street, S. E. corner of North,	Low
14.	Chestnut street, N. E. corner of Montmorenci,	Low
15.	North Main street, S. W. corner of Arch,	High
16.	North street, east side, opposite Osgood,	Low
17.	Everett street, N. E. corner Chestnut,	Low
18.	Carew street, south side, east of Arbor,	High
19.	Linden street, S. W. corner of Cass,	Low
20.	Chestnut street, east side, at Franklin (S.),	Low
21.	Liberty street, south side, opposite Webster,	High
22.	Armory street, east side, south of Liberty,	High
23.	Armory street, at Warwick avenue (S.),	High
24.	Worthington street, N. E. corner of Kibbe avenue,	High
25.	Worthington street, front of house No. 353,	High
26.	Spring street, near S. E. corner of Worthington,	High
27.	Dwight street, near N. E. corner of Taylor,	High
28.	Dwight street, S. W. corner of Hillman,	High
29.	Sanford street, S. W. corner of Dwight,	Low
30.	Chestnut street, west side, opposite Edwards,	High

No.	Location.	Service.
31.	State street, N. E. corner of Byers,	High
32.	Byers street, near S. E. corner of Pearl,	High
33.	State street, S. W. corner of Federal,	High
34.	Armory street, east side, north of Grant,	High
35.	Magazine street, west side, south of Armory,	High
36.	St. James avenue, N. E. corner of Magazine,	High
37.	Florida street, S. E. corner of Worthington,	High
38.	Thompson street, N. E. corner of St. James avenue,	High
39.	Worthington street, S. E. corner of Clarendon,	High
40.	Cornell street, at Harvard (S.),	High
41.	St. James avenue, north of Princeton street,	High
42.	Amherst street, N. E. corner of Princeton,	High
43.	Bay street, N. W. corner of Buckingham place,	High
44.	Bay street, S. W. corner of Marion,	High
45.	Cambridge street, S. E. corner of Bay,	High
46.	Andrew street, west side, opposite Dawes,	High
47.	State street, N. E. corner of Mapledell,	High
48.	State street, N. E. corner of Willard avenue,	High
49.	Wilbraham road, nearly opposite Northampton avenue,	High
50.	Northampton avenue, N. W. corner of Gunn square,	High
51.	Wilbraham road, at engine house,	High
52.	Monroe street, N. W. corner of Eastern avenue,	High
53.	Hancock street, at State (S.),	High
54.	Quincy street, near N. E. corner of Hancock,	High
55.	King street, N. W. corner of Hancock,	High
56.	Eastern avenue, S. W. corner of King street,	High
57.	Eastern avenue, N. W. corner of Alden street,	High
58.	Walnut street, N. W. corner of Florence,	High
59.	Alden street, S. E. corner of Hancock,	High
60.	Walnut street, east side, south of Queen,	High
61.	Pine street, south of cemetery gate,	High
62.	Oak street, east side, near Walnut,	High
63.	Mulberry street, at Ridgewood place,	High
64.	Maple street, S. E. corner of Central,	High
65.	Pine street, N. W. corner of Central,	High
66.	Pine street, N. E. corner of Maple,	High
67.	Central street, N. W. corner of Spruce,	High
68.	Allen street, at Mill,	High
69.	Allen street, at No. 161,	High
70.	White street, opposite No. 50,	High

No.	Location.	Service.
71.	White street, N. W. corner of Orange,	High
72.	Highland street, N. W. corner of Orange,	High
73.	Dickinson street, S. E. corner of Oakland,	High
74.	Dickinson street, opposite Keith,	High
75.	Belmont avenue, at top of hill,	High
76.	Belmont avenue, N. E. corner of Euclid,	High
77.	Belmont avenue, N. E. corner of Oakland street,	High
78.	Sumner avenue, S. W. corner of Forest,	High
79.	Sumner avenue, at Forest Park,	High
80.	Garfield street, at Greenleaf (W.),	High
81.	Sumner avenue, near Hawthorn place,	High
82.	Magnolia terrace, near house No. 77,	High
83.	Sumner avenue, S. E. corner of Beechwood,	High
84.	Sumner avenue, at cemetery,	High
85.	Fort Pleasant avenue, near Crescent terrace,	High
86.	Mill street, S. E. corner of Locust,	High
87.	Pine street, at Mill,	High
88.	South street, at Mill river,	High
89.	Main street, at Locust,	High
90.	Norwood street, N. E. corner of Hanover,	Low
91.	Loring street, N. E. corner of Water,	High
92.	Adams street, N. E. corner of Main,	Low
93.	William street, at Main,	High
94.	Willow street, S. E. corner of Park,	High
95.	Howard street, S. W. corner of Water,	Low
96.	Water street, east side, south of Court,	Low

INDIAN ORCHARD.

No.	Location.	Service.
1.	Myrtle street, S. E. corner Hampshire,	High
2.	Hampshire street, S. W. corner Oak,	High
3.	Oak street, near old Bay road,	High
4.	Worcester street, S. W. corner of Oak,	High
5.	Worcester street, near No. 236,	High
6.	Cedar street, east side, near Main,	High
7.	Main street, S. E. corner Myrtle,	High

Track Hydrants—For Car Sprinklers.

No.	Location.	Service.
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street, at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street, at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catharine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	Central street, at top of hill,	High
14.	King street, near Eastern avenue,	High
15.	Mill street, opposite Lincoln hall,	High
16.	Sumner avenue, opposite car barn,	High
17.	Fort Pleasant avenue, at Crescent terrace,	High
18.	Main street, at Norwood,	Low
19.	Maple street, at Park,	High
20.	Elm street, at Court square,	High

WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Bradford street, at Plainfield,	1	
Court street, at Court square,	1	
Liberty street, at Armory,	1	
Main street, at Court square ("Wesson" drinking fountain),	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Water Shops,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State st., at Winchester park ("Willard" drinking fountain),	1	
State street, at Indian Orchard road—opposite Catholic cemetery,	1	
Sumner avenue, at Beechwood,	1	
Water street, at Court,	1	
Worthington street, east of Dwight,	1	
Total,		14

Track Hydrants—For Car Sprinklers.

No.	Location.	Service.
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street, at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street, at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catharine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	Central street, at top of hill,	High
14.	King street, near Eastern avenue,	High
15.	Mill street, opposite Lincoln hall,	High
16.	Sumner avenue, opposite car barn,	High
17.	Fort Pleasant avenue, at Crescent terrace,	High
18.	Main street, at Norwood,	Low
19.	Maple street, at Park,	High
20.	Elm street, at Court square,	High

TWENTY-NINTH
ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.
1902

No.	High or Low.	Location.	Make.
4.	H.	S. W. corner Hampden and Oak streets,	Chapman
5.	H.	S. W. corner Worcester and Oak streets,	Chapman
6.	H.	Worcester street, midway Myrtle and Oak, 6″,	Chapman
7.	H.	S. W. corner Worcester and Myrtle streets,	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets,	Chapman
9.	H.	Main street, north side, west end of park,	Perkins
10.	H.	N. W. corner Main and Myrtle streets,	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6″,	Chapman
12.	H.	N. E. corner Main and Oak streets,	Chapman
13.	H.	S. E. corner Water and Oak streets,	Chapman
14.	H.	Center street, north side, 320 ft. east of Oak,	Chapman
15.	H.	Center street, north side, 320 ft. west of Cedar,	Chapman
16.	H.	S. W. corner Main and Pine streets,	Perkins
17.	H.	N. W. corner Worcester and Pine streets,	Chapman
18.	H.	Worcester st., north side, 600 ft. east of Pine, 6″,	Chapman
19.	H.	Main street, south side, at French church, 6″,	Chapman
20.	H.	S. W. corner Water and Cedar streets,	Chapman
21.	H.	N. W. corner Main and Cedar streets,	Perkins
22.	H.	Main street, midway Cedar and Quebec,	Chapman
23.	H.	Main street, N. W. corner Quebec,	Chapman
24.	H.	Worcester street, at end of pipe, 4″,	Chapman
25.	H.	Milton street, S. E. corner Main, 6″,	Chapman
26.	H.	Milton street, east side, end of pipe, 6″,	Chapman
27.	H.	Beaudry street, east side, end of pipe, 6″,	Chapman
28.	H.	Main street, north side, east of Beaudry, 6″,	Chapman
29.	H.	Main street, near Wilbraham line,	Chapman
30.	H.	Parker street, S. W. corner Main,	Chapman
31.	H.	Ludlow Mfg. Co.'s new street "C" (not yet named), S.E. corner new st. "A" (near Parker, I. O.), 4″,	Chapman
32.	H.	Parker street, west side, 1,200 ft. south of Main,	Chapman
33.	H.	Parker street, near old schoolhouse, 6″,	Chapman
34.	H.	Parker street, 400 ft. north of Oak, 6″,	Chapman
35.	H.	Parker street, south of railroad,	Chapman
36.	H.	Oak street, near railroad station, 6″,	Chapman
37.	H.	Oak street, east side, opposite John Ferris's,	Chapman
38.	H.	Oak street, N. E. corner High, 4″,	Chapman
39.	H.	Oak street, east side, opposite No. 194,	Chapman
40.	H.	Oak street, west side, south of Essex,	Chapman
41.	H.	Oak street, S. W. corner Essex,	Chapman

No.	High or Low.	Location.	Make.
42.	H.	Pasco street, S. E. corner Essex, 6″,	Chapman
43.	H.	Pasco street, east side, end of pipe,	Chapman
44.	H.	Pine street, at Chapman Valve works,	Chapman
45.	H.	N. W. corner Hampshire and Pine streets,	Chapman
46.	H.	N. E. corner Hampshire and Oak streets,	Chapman
47.	H.	Berkshire street, north side, west of Oak,	Chapman
48.	H.	N. E. corner Berkshire and Myrtle streets,	Perkins
49.	H.	N. W. corner Hampshire and Myrtle streets,	Chapman

FIRE RESERVOIRS.

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1
Bridge street, at Water,	1
Central street, opposite Beech,	1
Elm street, at First church,	1
Ferry street, at Main,	1
Hampden street, at Main,	1
Harrison avenue, at Main street,	1
Howard street, at Main,	1
Lyman street, at Dwight,	1
Main street, at Court square,	1
Main street, at Franklin,	1
Main street, near Patton,	1
Main street, at State,	1
Maple street, at Central,	1
Pine street, at Central,	1
Pynchon street, near Water,	1
State street, near Elliott,	1
Walnut street, at Hancock,	1
Water street, opposite Walker,	1
Total,	19

City of Springfield.

TWENTY-NINTH ANNUAL REPORT

OF THE

Board of Water Commissioners

COMPLIMENTS OF

BOARD OF WATER COMMISSIONERS,

Springfield, Mass.

C. L. GOODHUE, Chairman.
EVERETT E. STONE, Mayor.
CHARLES H. BENNETT.
} Commissioners.

A. R. HATHAWAY, Clerk and Registrar.
A. E. MARTIN, Superintendent.

☞ Please Exchange.

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SPRINGFIELD, MASS.
1903.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS

WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.
SPRINGFIELD, MASS., December 29, 1902.

To the City Council of the City of Springfield:—

The Board of Water Commissioners herewith submits for your consideration its twenty-ninth annual report, covering the fiscal year ending December 10, 1902, and including the reports of the Water Registrar and the Superintendent to the Board.

By the resignation of Mr. James F. Bidwell, July 1, 1902, this department and the city have lost the services of a faithful and able official. A member of the Board since February 1, 1894, Mr. Bidwell by his business and executive ability, his shrewdness and common sense, has served the city and this department with singular success. His interest in the problems of improvement, taken in connection with his thorough familiarity with every part and detail of the existing water supply, fitted him in a marked degree to continue in the service of the city; and his withdrawal from the Board is much to be regretted.

The Board welcomes as his successor, Mr. Charles H. Bennett, who was confirmed as a member of the Board on July 28, 1902.

THE QUESTION OF SUPPLY.

Under date of April 14, 1902, your Board made a special report on this question, embodying therein the communication of the State Board of Health of April 3, 1902, and the important facts relating to the whole subject of a better water supply, as obtained and presented in a report dated March 29, 1902, by Mr. Percy M. Blake, the engineer engaged in the study of the problem from special investigations and experiments made

under our direction and by your authority. In this, our special report, which was published in pamphlet form for general distribution to our citizens, we stated that "In view of the great importance to the city of a satisfactory solution of the water problem and the magnitude of the undertaking involved, we respectfully suggest that all the facts be submitted by your Honorable Body to the inspection and judgment of one or more experts of the highest standing and authority in water supply matters, to be selected by you, who shall report in full to your Honorable Body on the whole subject." Acting upon this suggestion a special committee of three well-known citizens has been commissioned by the City Council to further investigate and review the whole subject, aided by such further expert assistance as they may desire to employ.

It is hardly necessary for us to say that this Commission shall have our heartiest co-operation wherever and whenever desired, and the records, information and facilities of this department are at all time available for the use of its members and the experts whom they may employ.

QUALITY OF SUPPLY.

Owing largely to the cold summer, the water supplied to the city during the past season has been of better quality than in former years, and we were not required to resort to pumping from either Chapin pond or Five Mile pond. Early in August the algæ showed itself in the Ludlow reservoir, but, by reason of the uncommonly low evaporation at this time, the supply from Jabish brook was equal to our needs, and the main reservoir was shut off and remained so during the fall. If the season had been as hot as usual we could not have thus escaped.

CONSTRUCTION.

The total amount *charged* to this account during the past year was $91,426.14, which includes the following principal

expenditures, viz.: $3,060.71 for extension of distribution mains 5,353 feet, making a net total of 147.34 miles of pipe in the water works system; $2,295.23 for engineering and expense before the Legislature on account of the Westfield river possible supply; $1,967.41 for completion of filtration experiment at Ludlow reservoir; $81,060.29 for settlement of claims of mill owners on Chicopee river by reason of the diversion of the waters of Jabish brook in 1891; and $2,800 for the purchase of property on Wight avenue for additional stable purposes.

During the year there has been *credited* to construction account the total sum of $655.48, which includes the payment for standpipes and track hydrants charged to construction in the year 1901, and also a nominal sum for the transfer of 7.64 acres of land on Armory street to the Park Department, by order of the City Council, besides small amounts received from the sale of sand and material returned from reservoir property.

This, therefore, makes the *net total amount added* to this account during the year of $90,770.66.

The following tabulation shows the amount and cost of the distribution mains extension in each year since the year 1890:—

STATEMENT.

(*Feet totals are taken from annual tables in Superintendent's Report.*)

Extensions in	1891,	were 14,927	feet,	cost,	$10,396 00
" "	1892,	" 24,853	"	"	16,253 21
" "	1893,	" 25,079	"	"	17,090 71
" "	1894,	" 20,280	"	"	13,491 16
" "	1895,	" 32,368	"	"	25,302 47
" "	1896,	" 23,521	"	"	21,018 62
" "	1897,	" 39,108	"	"	22,349 41
" "	1898,	" 28,810	"	"	16,042 36
" "	1899,	" 20,851	"	"	10,069 22
" "	1900,	" 9,880	"	"	6,362 20
" "	1901,	" 8,668	"	"	5,174 62
" "	1902,	" 5,353	"	"	3,060 71

MAINTENANCE.

The total amount charged to maintenance account during the past year was $109,400.87, distributed as follows:—

GENERAL MAINTENANCE.

Management and repairs (operating, etc.), .	$23,151 26	
Interest on bonds, ...	85,500 00	
Taxes on reservoir property, . . .	198 43	
		$108,849 69

SPECIAL MAINTENANCE.

Engineering (mapping, etc.), . . .	$103 12	
Damages (from broken mains, accidents, etc.),	283 86	
Pumping station, Chapin pond (care and repairs), ...	26 00	
Pumping station, Five Mile pond (care and repairs), ...	5 68	
Distribution mains—renewals, . . .	132 52	
		551 18
Total, ...		$109,400 87

The net addition to the number of service connections during 1902 is 187, making a total of 10,221 connected to the distribution system.

The following summary shows the total number and the number of net additions each year since 1884:—

In 1885,	Total number service taps,	4,237	Net increase,	224
" 1886,	" " " "	4,519	" "	282
" 1887,	" " " "	4,819	" "	300
" 1888,	" " " "	5,147	" "	328
" 1889,	" " " "	5,497	" "	350
" 1890,	" " " "	5,770	" "	273
" 1891,	" " " "	6,181	" "	411
" 1892,	" " " "	6,633	" "	452
" 1893,	" " " "	7,000	" "	367
" 1894,	" " " "	7,482	" "	482
" 1895,	" " " "	7,900	" "	418

In 1896,	Total number service taps,				8,298	Net increase,		398
" 1897,	"	"	"	"	8,721	"	"	423
" 1898,	"	"	"	"	9,070	"	"	349
" 1899,	"	"	"	"	9,456	"	"	386
" 1900,	"	"	"	"	9,764	"	"	308
" 1901,	"	"	"	"	10,031	"	"	270
" 1902,	"	"	"	"	10,221	"	"	187

FINANCIAL.

The total cash receipts of the department from water rates, services, repairs, sales, etc., amounted to $245,416.48.

The following statement shows the annual increase since 1885 in the total amounts charged and collected each year *for water only:*—

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.
(On annual basis of twelve months.)

Year.	Water Rates Charged. *(During the year, only)*		Water Rates Collected.*	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	. . .	$90,848 05	. . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890**	133,553 28**	7,332 56	129,913 27**	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58
1900	225,798 96	5,125 82	218,741 57	5,680 33
1901	233,227 98	7,429 02	218,815 05	73 48
1902	231,594 98	(*Decrease*) 1,633 00	223,903 08	5,088 03

* For amounts abated and uncollected, see detail in Registrar's report.

** Amounts for 1890 are estimated at $20,000.00 less than actual totals for that year, which include fifteen months water rates, instead of twelve, due to change of time in rendering the semi-annual bills.

☞ The *decrease* in the "Water Rates Charged" in 1902 from the total of same charged in 1901 (instead of the usual annual *increase* shown in previous years) is due to the fact that no charge is now made by this department for the value of water used by the city for street sprinkling purposes, the same being included in the *book credits* for city use of water, from and after the year 1900, in accordance with the provisions of an order of the City Council, passed in 1902. Had the amount of $5,875.95 (for use of water for street sprinkling in 1902) been charged the past year, as in former years, the total amount charged during the year would have been $237,470.93, or an *increase* of $4,242.95 over that for 1901.

BONDED DEBT.

The following statement shows the creation, rate of interest, dates of maturity, and present condition of the bonded debt:—

7 per cent. bonds, falling due as follows:—		
April 1, 1894, to April 1, 1902, $25,000 annually (issued 1873) (*now all paid*), ...	$225,000 00	
April 1, 1903 (issued 1873-1874),	775,000 00	
Total issue of 1873 and 1874,		$1,000,000 00
Less bonds paid as follows:—		
April 1, 1894, from tax levy, .	$25,000 00	
April 1, 1895, " " " .	25,000 00	
April 1, 1896, " " " .	25,000 00	
April 1, 1897, " " " .	25,000 00	
April 1, 1898, from sinking fund,	25,000 00	
April 1, 1899, " " " .	25,000 00	
April 1, 1900, " " " .	25,000 00	
April 1, 1901, " " " .	25,000 00	
April 1, 1902, " " " .	25,000 00	
		225,000 00
Balance of 7 per cent. bonds outstanding, all due April 1, 1903 (forward), . .		$775,000 00

Amount brought forward, ...		$775,000 00
6 per cent. bonds, falling due April 1, 1905 (issued 1875),		200,000 00
3½ per cent. bonds, falling due October 1, 1920 (issued 1890),		125,000 00
4 per cent. bonds, falling due as follows: —		
April 1, 1913 (issued 1893), .	$200,000 00	
October 2, 1923 (issued 1893), .	150,000 00	
Total issue of 1893, ...		350,000 00
Net total bonds outstanding, ...		$1,450 000 00

It will be seen by the foregoing statement that the balance of the 7 per cent. bonds outstanding, amounting to $775,000, all become due April 1st next. To meet this obligation there will probably be available from the sinking fund at that time the sum of $575,000, and permission has been obtained from the Legislature for rebonding the balance required for the entire liquidation of these 7 per cent. bonds.

SINKING FUND.

The condition of the sinking fund is shown in the statement following, the available surplus from the water works receipts of the past year being diminished by the amount of $81,060.29 paid on account of the settlement of the Jabish brook claims, as shown elsewhere in this report.

Balance in hands of Sinking Fund Commissioners, December 10, 1901, ...	$446,948 99
Surplus transferred December 30, 1901, from water works receipts of 1901, ...	94,097 81
Total for investment to April 1, 1902 (forward), .	$541,046 80

Amount brought forward, ...	$541,046 80
Less amount paid City Treasurer to meet 7 per cent. bonds due April 1, 1902, ...	25,000 00
Total for investment from April 1, 1902, .	$516,046 80
Net interest on investments during 1902, ...	12,790 62
Balance in hands of Sinking Fund Commissioners, December 10, 1902, ...	$528,837 42
Available surplus from water works receipts of 1902, .	31,833 58
Total amount available, December 10, 1902, .	$560,671 00

CLAIMS.

We are pleased to report that during the past year the long pending claims of the mill owners on the Chicopee river for damages growing out of the diversion of the waters of Jabish brook in June of 1891, have all been amicably settled for the aggregate sum of $73,000, which was paid as follows:—

To Luther White as attorney for distribution of same among Ames Sword Company (Chicopee), Lamb Knitting Machine Mfg. Company (Chicopee),	$3,000 00
To Everett C. Bumpus, as attorney for distribution of same among Dwight Manufacturing Company (Chicopee), Chicopee Manufacturing Company (Chicopee Falls), Collins Manufacturing Company (Wilbraham), Ludlow Manufacturing Company (Ludlow), Otis Company (Palmer),	$70,000 00

As this aggregate amount includes eleven years' interest at 6 per cent., the settlement basis is equivalent to an original damage of some $45,000 had the same been paid at the time of diversion.

This settlement your Commissioners regard as a very favorable one for the city. Originally the late Hon. George D. Robinson was the attorney for the principal mill owners, and after his death Col. W. S. B. Hopkins of Worcester was their counsel. After the latter's death in January, 1900, Judge Everett C. Bumpus of Boston took charge of the cases, and with him the matter has been adjusted.

The city has been represented by William H. Brooks, Esq., of Holyoke, the late Frank P. Goulding, Esq., of Worcester, and John C. Hammond, Esq., of Northampton.

The death of prominent lawyers connected with these cases while the matter was in the courts greatly prolonged the settlement, but we feel that this delay has resulted in advantage to the city.

There has been settled also the past year, in accordance with the award of the Hampshire County Commissioners and in consequence of the Jabish brook diversion, the following smaller claim, viz.: —

Viola A. Cleveland (award, $100; court fees, $4), $104.00.

The amount paid for legal and court expenses during 1902 on account of the foregoing claims was $7,956.29, making a total aggregate expense of $81,060.29 during the past year on account of the Jabish brook diversion. This unusual expense was met by the surplus receipts of the department, which were more than sufficient for the purpose.

This department, we are happy to state, has now no suits of any kind on hand, and is free from any legal entanglements.

CLOSING REMARKS.

During the year past the position of Superintendent of the Water Department became vacant for the first time in the history of the water works, the death of Joseph Clark Hancock, on June 13, removing from that position the faithful official who had not only served the city in this capacity since the municipal ownership of the works in 1872, but who had also been in charge of the system during its earlier history under the private ownership of the Springfield Aqueduct Company, having been first elected by that company in July, 1864.

Mr. Hancock had thus seen nearly thirty-eight years of continuous service as Superintendent, a longer record, it is said, than that of any other similar official in New England.

In this time he had become thoroughly identified with each and every detail of the growth of the water works system, from its smallest beginnings, and through the changes of years to the magnitude of the present system, with its important problems and increasing responsibilities.

For the past few years he had contended against increasing ill health due to Bright's disease, which was the cause of his death.

He was ever watchful for the best interests of the department, and his zeal in his work was unflagging.

We deem it fitting to here record our tribute to his memory and official worth by the foregoing remarks and by the appended copy of resolutions passed by the Board at the time of Mr. Hancock's death.

As yet no successor to Mr. Hancock has been appointed, but it is the intention of the Board to fill the vacancy at the beginning of the coming year.

Meanwhile the duties of the position are being ably performed by the Superintendent's assistant and storekeeper, Mr. M. C. Hyde, who was appointed Acting Superintendent until a Superintendent should be formally chosen.

DETAILS.

The details of the finances and condition of same, and the work of the department during the past year, will be found in the reports of the Water Registrar and of the Superintendent submitted to the Board, which reports are hereto annexed and are made a part of the report of the Board to the City Council.

Respectfully submitted,

C. L. GOODHUE,
RALPH W. ELLIS,
C. H. BENNETT,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 29, 1902.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 29, 1902.

Read and concurred.

H. S. GILBERT, *Clerk.*

Presented to the Mayor for approval, December 30, 1902.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 30, 1902.

Approved.

RALPH W. ELLIS, *Mayor.*

RESOLUTIONS

Adopted by the Board of Water Commissioners of the City of Springfield, June 30, 1902.

Whereas: — The death of Joseph C. Hancock (which occurred June 13, 1902, at 11 o'clock, P. M., after a long and intermittent illness) has removed from our midst the "veteran Superintendent" of this department, a zealous and faithful official during nearly thirty-eight years of continuous service, and a man of strict personal integrity; be it hereby

Resolved: — That his unswerving loyalty to the water department be hereby given formal and deserved recognition by the Board of Water Commissioners.

Resolved: — That we hereby make record of his justifiable pride in his work; of his practical economy in the expenditure of public money; and of his unceasing care for the interests of the Springfield Water Works.

Resolved: — That we hereby tender our sympathy to his family in their bereavement.

Resolved: — That these resolutions be entered in the records of the Board of Water Commissioners, and that the Clerk of the Board be hereby instructed to send a copy thereof to Mr. Hancock's family.

WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:—

GENTLEMEN:—The following report of the Water Registrar for the fiscal year ending December 10, 1902, is herewith respectfully presented.

For convenient reference the statements given are separated into three principal divisions, viz.:—

1.—General Financial.
2.—Detail Financial.
3.—Miscellaneous.

1.—GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

To collections paid City Treasurer by City Collector, ...		$245,416 48
By approved bills and pay rolls paid by City Treasurer, as follows:—		
Total pay rolls approved and paid, .	$23,191 84	
Total bills approved and paid, . .	104,891 06	
	$128,082 90	
By interest on water bonds paid by City Treasurer, ...	85,500 00	
By balance transferred to sinking fund by City Treasurer, ...	31,833 58	
		$245,416 48

The net cost of construction and maintenance during the year has been charged to the following accounts:—

CONSTRUCTION.

Distribution mains—extension,		$3,060 71	
Hydrants—extension,		89 20	
Swift river—possible supply,		6 37	
Westfield river—possible supply,		2,295 23	
Real estate—43 Bridge street: —			
Office improvements — second floor (electric lighting equipment),	$129 30		
Additional water pipe for stable,	17 63		
		146 93	
Experimental filtration at Ludlow reservoir,		1,967 41	
Water rights, Jabish brook (expenses and settlement of old claims on account of "Ludlow Reservoir Improvement" in 1890 and 1891),		81,060 29	
Old "Construction" account (purchase of property No. 26 Wight avenue, for site for additional stable use),		2,800 00	
Total charged,			$91,426 14
Less amounts credited following accounts:—			
"Services—permanent pavement account" (for services assumed and paid for by consumers),		$13 69	
"Standpipes—for street sprinkling" (1901 extensions paid for by street watering department),		287 28	
"Track-hydrants — for street sprinkling" (*ditto*),		71 65	
Old "Construction" account (material taken out, sale of sand, etc.),		282 86	
Total credited,			655 48
Net total construction added,			$90,770 66

MAINTENANCE.

General: —		
Management and repairs,	$23,151 26	
Interest, coupons,	85,500 00	
Taxes,	198 43	
		$108,849 69
Special: —		
Engineering (mapping),	$103 12	
Damages,	283 86	
Pumping station, Chapin pond—		
Care and repairs,	26 00	
Pumping station, Five Mile pond—		
Care and repairs,	5 68	
Distribution mains — renewals,	132 52	
		551 18
Total,		$109,400 87

COST OF WATER WORKS.

Net total cost, December 10, 1901,	$2,141,263 26
Net aggregate construction added, 1902,	90,770 66
Net total cost of water works to December 10, 1902,	$2,232,033 92

Divided as follows:—

Balance of *old "Construction" account* in ledger to *December 10, 1893* (in future to be analyzed and separated, so far as possible, into its component construction and property accounts),	$1,656,562 98	
—Note amounts credited, etc., since 1899.—		
Net cost of *Ludlow Main No. 2* to December 10, 1902,	320,986 83	
NET *aggregate of new construction and property accounts*, as classified in ledger and annual reports since 1893,	254,484 11	
Total as stated,		$2,232,033 92

BONDED DEBT.

(As per Books of City Treasurer.)

775 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and all due April 1, 1903,		$775,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875, and all due April 1, 1905,		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920,		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow Main No. 2, and due as follows:—		
$200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works, December 10, 1902,		$1,450,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1901,		$446,948 99
Balance transferred from water works receipts of 1901,	$94,097 81	
Interest on investments, 1902 (*net*),	12,790 62	
	$106,888 43	
Less amount paid City Treasurer to meet 7 per cent. bonds, due April 1, 1902,	25,000 00	
		81,888 43
Balance in hands of Sinking Fund Commissioners, December 10, 1902 (forward),		$528,837 42

Amount brought forward,	$528,837 42
Balance available from water works receipts of 1902,	31,833 58
Total amount available December 10, 1902,	$560,671 00

INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1902 (as per report of the Superintendent), is distributed to the following accounts:—

Cast-iron pipe stock,	$4,446 07	
Wrought-iron pipe stock,	1,130 57	
Meter stock,	359 00	
Stores and supplies,	570 40	
Tools and machines,	2,373 19	
Office furniture and fixtures,	699 90	
Teams,	1,058 25	
Total,		$10,637 38

2.—DETAIL FINANCIAL STATEMENTS.

Receipts.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1901.	Committed During 1902.	Totals.
Water rates—annual,	$2,573 58	$149,214 64	$151,788 22
Water rates—meter,	223 70	75,640 14	75,863 84
Water rates—hose and fountains,	116 00	5,226 75	5,342 75
Water rates—builders,	282 00	1,093 25	1,375 25
Water rates—sprinkling streets,	5,799 17	. . . .	5,799 17
Water rates—miscellaneous*	65 33	* 420 20	485 53
Total water accounts,	$9,059 78	$231,594 98	$240,654 76
Services and repairs,	$1,879 27	$10,756 53	$12,635 80
Meters and repairs,	257 67	4,212 37	4,470 04
Fines and Penalties,	16 00	332 00	348 00
Off and on,	13 50	85 90	99 40
Seals,	. . .	1 00	1 00
Miscellaneous accts. (sales, etc.)**	113 21	** 5,895 53	6,008 74
Total other accounts,	$2,279 65	$21,283 33	$23,562 98
Totals charged 1902,	$11,339 43	$252,878 31	$264,217 74

*The amount of *$420.20*, charged during 1902 for "*Water rates—miscellaneous,*" includes:—

Rates for sundry season uses,	$261 00
" " fish-tanks and aquariums,	8 00
" " special temporary uses (circuses, etc.),	17 50
" " main pipe guarantees,	133 70

**The amount of *$5,895.53*, charged during 1902 for "*Miscellaneous accounts,*" includes:—

Rental of real estate and loan of tools, etc.,	$1,366 72
Shop sales of material and labor (accommodation, only),	1,451 38
Sundry sales (not shop), of wood, sand, grass, manure, etc.,	271 12
Amount of *1901 expense* on account of street watering fixtures, assumed and paid for in 1902 by street watering department, as follows: construction=$358.93; maintenance=$333.59,	692 52
Work for street watering department (1902), as follows: construction=$579.61; maintenance=$557.32,	1,136 93
Work for other city departments,	851 49
Miscellaneous work for private parties,	125 37

AMOUNTS ABATED TO COLLECTOR, AMOUNTS UNCOLLECTED, AND AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Abated During 1902.	Uncollected Dec. 10, 1902.**	Collected During 1902.
Water rates—annual,	*$7,086 33	$3,038 42	$141,663 47
Water rates—meter,	173 59	166 42	75,523 83
Water rates—hose and fountains,	205 00	55 00	5,082 75
Water rates—builders,	20 00	62 40	1,292 85
Water rates—sprinkling streets,	*5,799 17	. . . .	. . . .
Water rates—miscellaneous,	59 10	86 25	340 18
Total water accounts,	$13,343 19	$3,408 49	$223,903 08
Services and repairs,	$64 63	$1,484 41	$11,086 76
Meters and repairs,	. . .	260 11	4,209 93
Fines and penalties,	65 00	26 00	259 00
Off and on,	2 00	17 00	80 40
Seals,	. . .	. . . .	1 00
Miscellaneous accounts,	4 31	128 12	5,876 31
Total other accounts,	$133 94	$1,915 64	$21,513 40
Totals, 1902,	* $13,477 13	**$5,324 13	$245,416 48

* NOTE:—Of the total amount ($7,086.33) abated on account of "*Water rates—annual*," $6,025.95 represent *credits*—or draw-backs—*allowed for vacancies*, in accordance with Rule 12 of the Water Commissioners' rules and regulations.

The total amount of $5,799.17, abated on account of "*Water rates — sprinkling streets*," is the sum charged the *city* in 1901 and brought forward into 1902 as *unpaid*. This has now been abated to the Collector and added to the book credits for "*Water Rates—City Use*," by order of the City Council and vote of Water Commissioners in 1902.

** NOTE:—The amount of $5,324.13 (called "Uncollected Dec. 10, 1902") is the *balance* standing charged to the City Collector at the close of the city's fiscal year, and is composed of $1,143.48 in *collected cash* not yet paid over to the City Treasurer (and not to be credited to the Collector until so paid over), and also of $4,180.65 in actual *unpaid bills* at that date.

Of this latter amount, $1,288.06 represents unpaid bills committed to the Collector December 1, 1902, on which the month allowed for payment had not yet expired, leaving $2,892.59 in unpaid bills *actually overdue*.

RECAPITULATION.

DIVISIONS.	Water Accounts.	Other Accounts.	Totals.
Amounts collected, 1902,	$223,903 08	$21,513 40	$245,416 48
Amounts uncollected, 1902,	3,408 49	1,915 64	5,324 13
Amounts abated, 1902,	13,343 19	133 94	13,477 13
Amounts charged (including balances forward from previous year), 1902,	$240,654 76	$23,562 98	$264,217 74

The differences in the *total collection accounts* of 1901 and 1902 are shown as follows:—

COMPARISON: 1901-1902.

	1901.	1902.	DIFFERENCE 1902.
Amounts collected,	$237,823 51	$245,416 48	+$7,592 97
Amounts uncollected,	11,339 43	5,324 13	—6,015 30
Amounts abated,	8,588 51	13,477 13	+4,888 62
Amounts charged,	$257,751 45	$264,217 74	$6,466 29

The following table of charges and receipts since 1885 *for water only*, shows the annual growth of the cash income of the department since that date:—

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

Year.	Water Rates Charged. *(During the year only.)* Totals.	Increase.	Water Rates Collected. Totals.	Increase.
1885	$93,421 60	. . .	$90,848 05	. . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,151 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890*	133,553 28*	7,332 56	129,913 27*	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58	2,758 83
1898	209,183 12	12,364 40	201,710 66	9,578 08
1899	220,673 14	11,490 02	213,061 24	11,350 58
1900	225,798 96	5,125 82	218,741 57	5,680 33
1901	233,227 98	7,429 02	218,815 05	73 48**
1902	231,594 98	† (*Decrease* 1,633 00)	223,903 08	5,088 03

*Amounts for 1890 estimated at $20,000 less than actual totals for that year, which includes 15 months water rates instead of 12—due to change of time in rendering the semi-annual bills.

** ☞ The small increase in "Water Rates Collected" in 1901, as compared with similar annual increase shown in previous years (and in contrast with the usual average increase in "Water Rates Charged" during 1901) is due to the *non-payment by the city* of the usual annual charge (under an existing arrrangement) for water for street-sprinkling purposes, amounting to $5,799.11; the same being included therefore under the *first* division of the foregoing comparative statement but *not* under the *second*.

† ☞ The *decrease* in "Water Rates Charged" in 1902 from the total charged in 1901 (instead of the usual annual *increase* as in previous years) is due to the fact that no charge is made or collected for water for sprinkling streets, the same now being included in the *book credits* for city use of water, from and including the year 1901, as per order of the City Council in 1902.

INCOME:—VALUE ACCOUNTS.

The amounts entered on the ledger during 1902 are shown as follows:—

USE OF WATER BY THE CITY.

(*Charged and credited as shown below.*)

Almshouse and annexed buildings,		$376 00
City hall,		43 00
Fire department (buildings),	$658 00	
Fire department (hydrant service), 972 fire hydrants at $20 (amount fixed by city ordinance in 1880!),	19,440 00	
		20,098 00
Forestry department (buildings),		14 00
Highway department (city yards, etc.),		55 00
Park department (fountains, ponds, and hose;—except Forest park),	$670 00	
Park department (park uses at Forest park),	52 00	
		722 00
Police department (buildings),		103 00
Scavenger department and Wayfarers' lodge,		82 95
School department (buildings),		10,970 20
Sewer department (building purposes),	$6 10	
Sewer department (flushing), (amount fixed by city ordinance in 1880!),	500 00	
		506 10
Watering streets department (per order of City Council in 1902),		5,875 95
Watering tanks and drinking fountains,		640 00
Total, account 1902,		$39,186 20
Watering streets department (on account of *1901 use* charged through Collector and unpaid;—abated in 1902), (per order of City Council in 1902),		5,799 17
Amount charged (*on ledger only*) to "City of Springfield — Special Account" (forward),		$45,285 37

Amount charged (*on ledger only*) to "**City of Springfield — Special Account**" (forward), ... (NOTE:—CALLED A RESOURCE ACCOUNT IN PARTIAL OFFSET TO LIABILITY ACCOUNTS OF CITY BONDS AND APPROPRIATIONS.)		$45,285 37
Water department (buildings), amount charged (*on ledger only*) to "**Expense,**" . . .		91 00
Total credited (*on ledger as gain account*) to "**Water Rates—City Use,**"		$45,376 37

RENTS OF REAL ESTATE.

(*Charged and credited as shown below.*)

Foreman's house, No. 37 Bridge street (charged to "**Labor**"), . . .	$156 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "**Teams**"), . .	300 00	
Keeper's house, Ludlow reservoir (charged to "**Care and Repairs—Ludlow Reservoir**"), ...	180 00	
Keeper's house, Van Horn reservoir (charged to "**Care and Repairs —Van Horn Reservoir**"), ...	100 00	
Total credited to "**Rents,**"		736 00
Total, "INCOME:—VALUE ACCOUNTS," .		$46,112 37

Expenditures.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts during 1902:—

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Ashmun street,	53 feet,	1¼ inch,	$17 24
Bevier street,	206 "	6 "	185 81
Cypress avenue,	70 "	1 "	12 76
Joy street (Ludlow),	244 "	2 "	93 78
Massachusetts avenue,	336 "	6 "	227 53
Middlesex street,	72 "	6 "	42 06
Oak Grove avenue,	290 "	6 "	151 65
Pasco street, I. O.,	458 "	6 "	357 08
Parkwood street,	21 "	1 "	1 68
Sumner avenue,	1,875 "	6 "	921 29
Sorrento avenue,	179 "	1½ "	44 86
Sherman road,	19 "	6 "	147 51
Shamrock avenue,	81 "	1¼ "	21 95
Spencer avenue,	173 "	1½ "	42 74
Sterling street,	271 "	6 "	182 88
Tracy avenue,	432 " 30 "	6 " 2 "	312 22
Trinity place,	16 "	6 "	69 25
Wilmont street,	363 "	6 "	219 09
Willow street,	56 "	1 "	9 33
Total charged,			$3,060 71

WESTFIELD RIVER—POSSIBLE SUPPLY.

Engineering — services,	$978 62
Engineering — expenses,	145 48
Legislative bill — (hearings, field examinations, legal services, and sundry expenses; not including engineers' services),	1,095 65
Amount carried forward,	$2,219 75

Amount brought forward,	$2,219 75
Water Commissioners' expenses — (for traveling and incidentals),	15 25
Water samples (for analysis) (from Huntington, etc.),	53 86
Sundry petty expenses,	6 37
Total,	$2,295 23

EXPERIMENTAL FILTRATION.

Engineering (services and expenses),	$1,543 89
Pay rolls (labor and teaming),	277 00
Apparatus, furniture, and fixtures,	18
Tools and general supplies,	1 85
Incidentals,	6 65
Operating supplies (coal, oil, chemicals, etc.),	137 84
Total,	$1,967 41

WATER RIGHTS—JABISH BROOK.

(*Settlement of claims on account of "Ludlow Reservoir Improvement" in* 1890 *and* 1891.)

Aggregate amounts for damages sustained, as agreed to by counsel on both sides, paid as follows :—

To Luther White, as attorney for distribution among Ames Sword Company (Chicopee), Lamb Knitting Machine Mfg. Company (Chicopee),	$3,000 00
To Everett C. Bumpus, as attorney for distribution among Dwight Mfg. Company (Chicopee), Chicopee Mfg. Company (Chicopee Falls), Collins Mfg. Company (Wilbraham), Ludlow Mfg. Company (Ludlow), Otis Company (Palmer),	70,000 00

(*Above amounts include interest at 6 per cent. from June, 1891.*)

Amount awarded by the Hampshire county Commissioners for damages to well, owned by Viola A. Cleveland (plus fees of $4.00),	104 00
Legal and court expenses,	7,956 29
Total,	$81,060 29

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$7,499 07	
Inspection (salaries and expenses),	3,640 94	
Teams (balance undistributed),	638 00	
Tools and machines (net loss),	522 31	
Stores and supplies (net loss),	131 16	
Office furniture and fixtures (net loss),	55 12	
Stationery and printing,	587 94	
Office account (janitor, supplies, etc.),	526 45	
Heat and light,	103 88	
Expense account (net),	391 85	
Expense, city departments (net),	351 15	
Telephone service,	51 81	
Off and on (services, etc.) (net),	234 81	
Refunds,	22 64	
Frozen services,	23 39	
Quality expense (flushing mains, getting samples, etc.),	12 74	
Petty maintenance,	868 25	
		$15,664 51
Care and repairs, Van Horn reservoirs,	$582 83	
" " Ludlow reservoir,	1,082 67	
" " Belchertown reservoirs,	800 55	
" " Ludlow main No. 1 (24 inch),	333 37	
" " Ludlow main No. 2 (36 inch, etc.),	67 03	
" " Distribution mains, cast iron,	300 27	
" " Distribution mains, wrought iron,	176 90	
" " Gates and valves,	389 84	
" " Hydrants,	1,171 57	
" " Standpipes (for street sprinkling),	14 42	
" " Drinking fountains,	93 72	
" " Meters (net),	283 17	
" " Services (net),	1,923 19*	
" " Private telephone lines,	141 80	
" " Indian Leap Bridge,	10 78	
		7,372 11
Amount carried forward,		$23,036 62

Amount brought forward,		$23,036 62
Repairs (real estate), No. 43 Bridge street,	$57 30	
" " Stable, Bridge street,	7 68	
" " No. 49 Bridge street,	16 95	
" " No. 26 Wight avenue,	15 55	
" " House, Van Horn reservoir,	8 98	
" " House, Ludlow reservoir,	8 18	
		114 64
Total,		$23,151 26

* "CARE AND REPAIRS—SERVICES" may be analyzed as follows:—

Acct. of corporation cocks, nips, leaks, etc.,	$642 74
" of putting on pump (small pressure),	99 75
" of stoppage by eels,	19 64
" of putting new stops inside curb line,	865 34
" of relocating stops, etc.,	24 62
" of cutting off abandoned services,	40 55
" of repairs of stops, valves, pipe, etc.,	41 07
" of raising or lowering boxes, and repairing or cleaning same,	172 94
" of street and walk repairs,	16 54
Total,	$1,923 19

INTEREST ON BONDS.

$800,000 at 7 per cent., 6 months,†	$28,000 00†	
$775,000 at 7 per cent., 6 months,†	27,125 00†	
$200,000 at 6 per cent., 12 months,	12,000 00	
$350,000 at 4 per cent., 12 months,	14,000 00	
$125,000 at 3½ per cent., 12 months,	4,375 00	
Total,		$85,500 00

† Twenty-five $1000-7 per cent. bonds, due and paid April 1, 1902.

TAXES.

On reservoir property at Belchertown:—		
Per acts of 1890, chapter 303,	$56 80	
Per acts of 1893, chapter 352,	11 44	
		$68 24
On reservoir property at Ludlow:—		
Per acts of 1893, chapter 352,		130 19
Total,		$198 43

DAMAGES.

Paid sundry persons for damages claimed from flooding premises at No. 151 North Main street, caused by break in water main,	$210 00
Paid cost of sundry expense for repairs at above premises, etc.,	73 86
Total,	$283 86

DISTRIBUTION MAINS—RENEWALS.

(See Superintendent's report for detail of location, etc.)

LOCALITY.	PIPE.	SIZE.	COST.
Alert street,	231 feet,	2 inch,	$95 10
Buckingham place,	143 "	1¼ "	37 42
Total,			$132 52

3.—MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated, and uncollected during 1902, the number charged being also the number of premises ordered shut off to enforce payment of same:—

DIVISIONS.	For Unpaid Bills. Due before 1902.	Due in 1902.	For Waste Unchecked.	Total Number.
Number uncollected, 1901 (forward),	8	. .	0	8
Number charged during 1902,	1	164	1	166
Total charged collector, 1902,	9	164	1	174
Number collected during 1902,	2	127	0	129
Number abated during 1902,	7	25	0	32
Number uncollected, 1902 (forward),	0	12	1	13
Total, as above,	9	164	1	174

METERS AND INDICATORS.

Total number in use October 1, 1901, ...		3,337
Number of meters (on service pipes) added (net), .	192	
Number of indicators (on elevators and motors) added (net),	8	
Net total number added to October 1, 1902, .		200
Total number in use October 1, 1902 (see table of same following),		3,537

Total quantity of metered water charged during 1902, ...	464,341,248 gallons
Average quantity charged per meter or indicator, .	131,281 gallons
Total amount charged during 1902, . . .	$75,640 14
Average amount charged per meter or indicator, .	$21 38
Average rate charged per 1,000 gallons, . .	16.28 cents

TABLE OF METERS AND INDICATORS.*

(To October 1, 1902.)

Kind and Size.	½″ or ⅝″	¾″	1″	1½″	2″	3″	4″	6″	Indicators.	Totals.
Meters.										
Ball & Fitts, Piston	....	1	....	....	....	....	....	....	....	1
Crown	990	593	71	16	14	4	1	....	....	1,689
Desper	4	1	....	....	....	....	....	....	....	5
Hersey (disc)	275	194	16	1	1	....	....	....	....	487
Hersey (rotary)	239	297	20	9	8	....	5	1	....	579
Nash	282	196	27	2	....	1	....	....	....	508
Thomson	8	7	2	1	....	....	....	....	....	18
Trident	....	....	....	1	....	....	....	....	....	1
Undine (and Hartford)	....	2	....	....	....	....	....	....	....	2
Union Duplex	....	1	....	....	....	....	....	....	....	1
Union Rotary	52	18	2	1	3	....	....	....	....	76
Worthington	7	4	....	2	2	....	....	....	....	15
										3,382*
Indicators.										
Desper (for elevators)	....	....	....	....	....	....	....	....	128	155
Desper (" motors)	....	....	....	....	....	....	....	....	1	
Friction (" elevators)	....	....	....	....	....	....	....	....	1	
Graves (" ")	....	....	....	....	....	....	....	....	6	
Ross (" motors)	....	....	....	....	....	....	....	....	3	
Whitney (" ")	....	....	....	....	....	....	....	....	9	
Whittier (" elevators)	....	....	....	....	....	....	....	....	5	
Worthington (" ")	....	....	....	....	....	....	....	....	2	
Totals	1,857	1,314	138	33	28	5	6	1	155	3,537

* *Meters are set at option and expense of consumer, and therefore mostly on frugal supplies; consequently total consumption averages but slightly affected thereby!*

INSPECTION.

The distribution of work done under this head and time spent by the four inspectors on same, during the past year, will be seen by the usual tabulated statement as follows:—

CLASSIFICATION.	Inspectors. No. 1. Days.	No. 2. Days.	No. 3. Days.	No. 4. Days.	Total Number of Days.
Reading and inspection of meters	129	122	131	156	538
Turning on and off $8 hose	0	2	0	0	2
Inspection of hose use—general	0	8	8	15	31
General or "house-to-house" inspection	0	34	58	77	169
Semi-annual and monthly inspection (billing)	80	49	0	0	129
Monthly inspection of vacancies reported	0	0	60	0	60
Special inspection (leaks, bills, and collections)	0	9	16	25	50
Special inspection (real estate sales)	0	19	0	0	19
Office work	80	44	16	16	156
Sickness, etc	0	2	0	0	2
Total (289 working days in the year)	289	289	289	289	1,156

During the year 931 cases of leaking fixtures were found on unmetered premises, and the same recorded and the waste caused to be discontinued.

STATISTICS.

Annexed will be found the usual comparative statement showing a classification of consumers supplied at date together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 29, 1902.

BOARD OF WATER COMMISSIONERS, December 29, 1902.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

COMPARATIVE STATEMENT,

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1890, 1900, 1901, AND 1902.

CLASSES.	1864.	1874.	1880.	1890.	1900.	1901.	1902.
Bakeries	.....	.....	8	15	36	38	42
Banks	2	9	12	15	16	16	15
Barber Shops	2	14	3	30	85	85	83
Baths	.....	439	829	2,654	8,777	9,442	9,978
Beer Pumps	.....	.....	.....	.....	67	78	83
Boarding Houses	.....	33	55	97	77	80	84
Breweries	.....	.....	2	2	2	2	2
Cemeteries	.....	.....	1	5	6	6	6
Churches (from 1895)	.....	.....	.....	.....	39	44	45
Churches, Halls, and Public Buildings (to 1895)	2	12	14	60	.....	.....	.....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	.....	34	35	35
Dyehouses and Bleacheries	2	2	3	3	4	4	4
Elevators	.....	.....	15	96	154	163	171
Families	1,288	3,637	4,893	8,511	15,179	15,754	16,241
Fish Tanks and Aquariums	.....	.....	.....	8	10	10	8
Foundries	4	5	6	12	13	13	13
Fountains (private)	.....	.....	12	18	9	9	6
Fountains (public)	.....	.....	.....	10	14	16	17
Gas Works	.....	.....	1	1	1	1	1
Greenhouses	2	3	9	8	24	24	26
Halls (from 1895)	.....	.....	.....	.....	53	54	61
Hose	.....	.....	885	1,857	3,827	3,934	3,769
Hotels	7	12	15	20	19	19	20
Laundries	.....	6	6	25	41	44	47
Manufactories	6	50	80	78	79	79	80
Markets	8	31	54	60	105	105	106
Motors	.....	.....	13	44	76	91	91
Offices and Rooms	.....	88	521	1,088	1,834	1,882	1,943
Parks (from 1895)	.....	.....	.....	.....	13	15	16
Photographers	.....	6	9	11	11	12	12
Printers and Publishers	.....	.....	.....	25	25	26	26
Public Buildings and Institutions (from 1896)	.....	.....	.....	.....	27	27	27
Public Institutions (to 1895)	.....	.....	.....	6	.....	.....	.....
Railroads	.....	.....	3	4	4	4	4
Restaurants	5	14	17	24	49	52	53
Saloons	9	34	32	45	44	54	54
Schools (total to 1897)	.....	12	15	33	.....	.....	.....
Schools (private) (from 1897)	.....	.....	.....	.....	14	14	13
Schools (public) (from 1897)	.....	.....	.....	.....	32	32	32
Shops	18	51	88	189	333	339	354
Slaughter Houses	.....	.....	.....	1	.....	.....	.....
Stables (private)	82	274	379	704	1,260	1,290	1,313
Stables (public)	6	14	23	30	31	30	29
Steam Engines	.....	.....	48	74	116	117	120
Steam Heaters	.....	.....	32	104	806	839	874
Stores	125	225	320	359	693	712	732
Street Railways (from 1895)	.....	.....	.....	.....	1	1	1
Urinals	.....	131	296	435	560	576	587
Water Closets	.....	1,192	2,402	6,792	16,958	17,944	18,817
Watering Tanks and Drinking Fountains	.....	.....	.....	12	14	14	14

SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1902.

Springfield Water Works, Hampden County, Mass.

Population by U. S. census of 1900, ... 62,059
(*Assessors' estimate for 1902 = 64,675*)

Dates of construction :—
Original works in city, by private company, 1864
(Sale of same to city, for $238,296.00, in 1872.)
Works at Ludlow, Mass., ... 1873–1874–1875
Works at Belchertown, Mass., ... 1890–1891
Additional main from Ludlow reservoir, . 1893–1894

By whom owned, ... City of Springfield

Sources of supply :—
Low pressure — from impounding reservoirs in the city, fed by springs, surface water, and also by the high pressure.
High pressure — from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs, and surface water.
(Aggregate storage capacity, 2,295,792,000 gallons.)

Mode of supply, ... entirely by gravitation.

FINANCIAL.

(NOTE.—All expenditures, including ordinary extensions of mains, etc., are made from general receipts—from water rates, sales, etc.—but the *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS (*credited*).

INVENTORY of material, tools, etc., on hand Dec. 10, 1901			$13,063 29
FROM CONSUMERS (*cash*)—(*Division II.*):—			
N. Water rates, fixed	$148,379 25		
Q. Water rates, meter (*Division I.*)	75,523 83		
C. Net cash receipts for water (from consumers)		$223,903 08	
D. (Including "U", under construction.) Miscellaneous—(services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note)		21,513 40	
E. Total, 1902 (*cash*)			$245,416 48
FROM PUBLIC FUNDS (*value, only*):—			
F. Hydrants, 972 at $20		$19,440 00*	
G. Fountains, tanks, sewers, etc		1,816 10*	
H. Street watering:— 1901 *abated charge* $5,799 17; 1902 estimated value 5,875 95		11,675 12*	
I. Public buildings and departments		12,445 15*	
Total public uses (*value*):—		$45,376 37*	
FROM REAL ESTATE RENTALS (*value, only*)			
House ren given employees in part payment for services,—(amount of same charged to proper maintenance accounts under expenditures.)		736 00*	
Total, 1902 (*value*)			$46,112 37*
K. Gross receipts *credited* from all sources, 1902 (*cash and value*)			291,528 85

EXPENDITURES (*charged*).

GENERAL ACCOUNT:—			
AA. Management and repairs	$23,151 26		
BB. Interest on bonds	85,500 00		
Taxes on reservoir prop'ty	198 43		
		$108,849 69	
SPECIAL ACCOUNT:—			
Distrib'n mains, renewals	$132 52		
Pumping station, Chapin pond (care and repairs)	26 00		
Pumping station, Five Mile pond (care and repairs)	5 68		
Damages (by leaks, accidents, etc.)	283 86		
Miscellaneous accounts	103 12		
		551 18	
CC. Total maintenance *charged* 1902		$109,400 87	
GG. (Including same under "Construction") Services, meters, repairs, etc. (cost of labor and material charged to consumers, and included in "Receipts" under "D")		16,664 28	
Gross expenditures *charged* 1902			$126,065 15
DD. BALANCE, divided as follows:—			
Amount used for construction		$90,770 66	
Cash available for sinking fund		31,833 58	
Value city use of water, charged to City of Springfield (special acct.)		45,285 37	
Inventory of materials, tools, etc., on hand Dec. 10, 1902		10,637 38	
			178,526 99

CONSTRUCTION.

Receipts (*credited*).			Expenditures (*charged*).			
R.	Balance from previous year	$800 00	FF.	Extension, distribution mains		$3,060 71
	Amount from maintenance receipts	90,770 66	GG.	Extension, services (paid for by consumers, see "Maintenance")		.....
	Amount from sales and transfers of real estate and material in 1902 to the credit of construction account of previous years	655 48	HH.	Special: —		
S.	Bonds issued	00 00		(*a*) Hydrant extension	$89 26	
T.	Appropriations from tax levy (see *note* under "Financial")	00 00		(*b*) Water rights—Jabish brook (legal expenses, and final settlement of long-pending claims, on account of "*Ludlow Reservoir Improvement*" in 1890 and 1891)	81,060 29	
U.	Other sources (included with "D" under maintenance receipts)	.....		(*c*) Experimental filtration at Ludlow reservoir (completion)	1,967 41	
				(*d*) Possible new supply	2,301 60	
				(*e*) Real estate and office improvements	2,946 93	
						88,365 43
			II.	Total construction *charged* 1902 (*Less $655.48 credited,—per receipts,—=$90,770.66, net.*)		$91,426 14
			JJ.	Balance		00 00
V.	Total available credited 1902	$91,426 14	KK.	Total (in balance with receipts)		$91,426 14

GENERAL STATEMENTS.

W.	Net cost of works, December 10, 1902,		$2,232,033 92
X.	Net bonded debt, December 10, 1902,		$1,450,000 00
Y.	Value of sinking fund, December 10, 1902,		$560,671 00
Z.	Rate of interest on bonded debt: —		
	7 per cent. on	$775,000 00	
	6 per cent. on	200,000 00	
	4 per cent. on	350,000 00	
	3½ per cent. on	125,000 00	
	Average rate = 5.83+ per cent. on	$1,450,000 00	

CONSUMPTION.

1.	Total population at date (assessors' estimate), ...	64,675
2.	Estimated population on lines of pipe at date,	56,000
3.	Estimated population supplied at date,	51,000
4.	Total number gallons consumed for year (estimated), . . . *about*	3,029,500,000 gallons.
5. 6.	Passed through domestic meters, . Passed through manufacturing meters, . (or 15.32 per cent.)*	464,341,248 gallons.*
7.	Average daily consumption (estimated), *about*	8,300,000 gallons.
8.	Gallons per day to each inhabitant (estimated) (1), ...	128
9.	Gallons per day to each consumer (estimated) (3), ...	162
10.	Gallons per day to each tap (estimated) ("Distribution," 22), ...	812

DISTRIBUTION.

MAINS.

1. Kind of pipe used; — wrought-iron cement-lined (formerly used by private aqueduct company and by city); — wrought-iron — for small and temporary mains, — and cast-iron (used by city at present).
2. Sizes; — from one to 36 inches.

3.	Extended during year (added to pipe table, including all changes, etc.), . . .	8,449 feet.
4.	Discontinued during year (deducted from pipe table, including all changes, etc.),	2,536 feet.
5.	Total now in use, ...	147.34 miles.
6.	Cost of repairs per mile, ...	$5.95
7.	Number of leaks per mile, ... (Total leaks during year=36.)	0.24
8.	Small distribution mains,—less than 4 inches in diameter,—total length, . . .	41,813 feet.

* As meters are set at *option and expense of consumer*,—and therefore mostly on "frugal supplies,"—the total consumption averages are but slightly affected thereby!

9.	Hydrants added during year (public), net, .		8
10.	Number of public hydrants now in use, .		972
11.	Stop gates added during year (public and private), net, ...		59
12.	Number of stop gates now in use, . .		1,983
13.	Small stop gates, less than 4 inches—total, .		403
	(a) High service, ...	281	
	(b) Low service, ...	122	
14.	Number of blow-off gates, ...		89
15.	Range of pressure on mains at center for day and night:—		
	(a) High service, ...	100 to 120 pounds.	
	(b) Low service, ...	30 to 35 pounds.	

SERVICES.

16. Kind of pipe used;—lead (formerly used by private aqueduct company);—cement-lined wrought-iron, and tarred wrought-iron (formerly used by city);—galvanized wrought-iron, and cast-iron (used by city at present).

17. Sizes from ½ to 6 inches.

18. Extended during year (in feet).
19. Discontinued during year (in feet).
20. Total now in use (in miles).

} NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.

21.	Service taps added (net), ...		187
22.	Number of service taps now in use, . .		10,221
23.	Average length of service,	(See note under 18, 19, 20.)	
24.	Average cost of service,		
25.	Meters added (including indicators) (net), .		200
	(a) Meters added, ...	192*	
	(b) Indicators added, ...	8	
26.	Number of meters now in use (including indicators), ...		3,537*
	(a) Meters (on supply pipes), ...	3,382*	
	(b) Indicators (on elevators and motors),	155	
27.	Motors and elevators added (net), . .		8
	(a) Motors added, 3; discontinued, 3;	0	
	(b) Elevators added, 9; discontinued, 1;	8	
28.	Number of motors and elevators now in use,		262
	(a) Motors, ...	91	
	(b) Elevators, ...	171	

* See foot-note under "Consumption."

SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners :—

GENTLEMEN : —I herewith submit the twenty-ninth annual report of the Superintendent, for the year ending November 30, 1902.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE, GATES AND HYDRANTS ADDED.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Feet of Pipe laid—High service,	5,156	143	669	5,968
Feet of Pipe laid—Low service,	197	231	0	428
Totals laid, 1902, ...	5,353	374	669	6,396
Added to tables (account previous years, changes, etc.), .	2,053	0	0	2,053
Totals added, 1902, . . .	7,406	374	669	8,449
Gates set—High service, . .	15	0	38	53
Gates set—Low service, . . .	1	2	8	11
Totals set, 1902, ...	16	2	46	64
Added to tables (account previous years), ...	1	0	0	1
Totals added, 1902, . . .	17	2	46	65
Fire Hydrants set—High service,	8	4	2	14
Fire Hydrants set—Low service,	0	1	0	1
Totals set, 1902, ...	8	5	2	15

MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

Number.	Totals.
Feet of Pipe—High service,	2,252
Feet of Pipe—Low service,	284
Total, 1902,	2,536
Gates—High service,	3
Gates—Low service,	3
Total, 1902,	6
Fire Hydrants—High service,	4
Fire Hydrants—Low service,	1
Total, 1902,	5

There are now in use 147.34 miles of supply and distribution mains, a net addition of 1.12 miles the past season.

Three hundred ninety-two service taps have been made, a net addition of 187 in use. The total number now connected with the system is 10,221.

RAINFALL.

The table which follows shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory, and the City Engineer's office in this city, during the year ending November 30, 1902.

MONTHS.	Belchertown.	Ludlow Reservoir.	U. S. Armory.	Engineer's Office.
	Inches.	Inches.	Inches.	Inches.
December, 1901, .	6.82	8.35	8.82	8.16
January, 1902, .	1.80	1.78	1.33	1.37
February, 1902, .	1.18	2.70	4.00	3.09
March, 1902, . .	5.77	4.30	4.74	4.81
April, 1902, . .	1.19	3.71	3.42	3.70
May, 1902, . . .	2.24	1.72	1.40	1.33
June, 1902, . . .	3.05	3.23	2.76	2.86
July, 1902, . . .	4.92	3.81	3.90	4.55
August, 1902, . .	4.33	4.50	4.62	6.70
September, 1902, .	4.90	4.91	5.41	6.72
October, 1902, . .	4.87	5.30	5.75	5.28
November, 1902, .	1.02	1.39	0.70	0.86
Totals, . . .	42.09	45.70	46.85	49.46
Mean, . . .	3.51	3.81	3.90	4.12

CONSTRUCTION AND MAINTENANCE.

The work of construction has continued to diminish, as was to be expected from so large extensions made during previous years in newly-developed streets. But with pipe approaching 150 miles, of various ages, nearly 2,000 gates, toward 1,000 hydrants, and more than 10,000 services to take care of, the work of maintenance is naturally increasing steadily and permanently.

We have made it our special duty to see that those who paid for water should get it so far as depended upon us; and to that end have continued the practice of modernizing the connections at the mains, whenever the circumstances seemed to warrant, with almost unvarying success.

The work of the street department still makes large demands upon us, by way of new stops in walks on streets to be paved or macadamized. An uncommon feature of this year's work has been the relocation of the main pipes, the repeated readjustment of gate boxes, and the moving of hydrants on

Berkshire, Oak, and Main streets, all the way from St. Michael's cemetery to the bridge at Ludlow.

The worst evil with which we now have to contend is the indiscriminate use of hydrants by so many different parties, municipal and private.

A large number of hydrants have come to repairs, and, as usual in such cases, it has been impossible to fix the responsibility. Some new restrictions or regulations are needed for the government of those who use them for city purposes. The experiment lately tried, of requiring a contractor for conduits to pay a competent man of ours regular wages to operate the hydrants, proved mutually satisfactory, and seems to furnish a solution of a troublesome matter.

So far as can be ascertained by repeated and careful examination, the two main supply pipes, the distribution pipes, the gates, and the hydrants, with a few exceptions, well known and watched, are in safe and satisfactory condition.

Thirty-six leaks have been repaired this season, an average of $\frac{24}{100}$ + to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

LEAKS, 1902.

KIND AND SIZE OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	TOTALS.
Cement-lined & Wrought-iron,	4	0	1	3	1	0	0	0	0	2	0	0	11
Cast-iron, .	0	1	5	5	10	0	1	0	0	1	2	0	25
Totals.	4	1	6	8	11	0	1	0	0	3	2	0	36

INVENTORY.

The amount of stock, tools, and fixtures on hand December 1, 1902, was $10,637.38.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates, and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

M. C. HYDE, *Acting Supt.*

SPRINGFIELD, MASS., December 29, 1902.

BOARD OF WATER COMMISSIONERS, December 29, 1902.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

WATER PIPE LAID AND TAKEN OUT IN 1902.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Pipe Laid by Private Parties.					
Hooker street, west from North Main (S. R.-13,062)	6	Cast-iron.	647	....	
HYDRANTS:—Hooker street (S. R.-13,062)	6	"	22	....	669
Total cast-iron laid by private parties	....	.....	669	....	669
Pipe Laid by City.					
Cypress avenue, north from 3″ cement lined. (See S. R.-13,406)	1	Wrought-iron.	....	70	
Parkwood street, south from 6″. (See S. R.-13,330)	1	"	21	....	
Willow street, north from Hubbard avenue. (See S. R.-13,375)	1	"	....	56	147
Ashmun street, south from Adams. (See S. R.-13,315)	1¼	"	....	53	
Buckingham place, south from Buckingham street	1¼	"	143	...	
Shamrock avenue, south from 6″. (See S. R.-13,367)	1¼	"	81	....	277
Sorrento avenue, north from Granada terrace. (See S. R.-13,142)	1½	"	179	....	
Spencer avenue, south from Sumner	1½	"	173	....	352
Alert street, north from Worthington	2	"	....	231	
Joy street, Ludlow, north from Ludlow main No. 1	2	"	244	....	
Tracy avenue, at Franklin street	2	"	30	....	505
Total wrought iron laid by city	....	.....	871	410	1,281
HYDRANTS, sundry streets:—					
Bevier street	4	Cast-iron.	7	....	
Cherry street	4	"	5	....	
Parkwood street	4	"	7	....	
Pasco street, I. O.	4	"	7	....	
Pineywoods avenue	4	"	9	....	
Plainfield street	4	"	....	18	
Quincy street	4	"	6	....	
Sherman road	4	"	7	....	
Sumner avenue	4	"	11	....	
Tracy avenue	4	"	7	....	
Trinity place	4	"	14	....	98
Bevier street, east from Armory	6	"	206	....	
Central avenue, I. O., west from Parker street (not named in 1901;—called "Ludlow Mfg. Co.'s new street 'A'" in tables)	6	"	....	....	

WATER PIPE LAID, ETC., IN 1902—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET. High Service.	Low Service.	Totals.
First street, I. O., south from Central avenue (not named in 1901;—called "Ludlow Mfg. Co.'s new street 'B'" in tables)	6	Cast-iron.	....	....	
HYDRANTS:—Willow street	6	"	10	....	
Massachusetts avenue, south from Wilbraham road. (See S. R.-13,168-13,336)	6	"	336	....	
Middlesex street, extension. (See S. R.-13,304)	6	"	72	....	
Oak Grove avenue, extension. (See S. R.-13,147-48)	6	"	290	....	
Parkwood street (name changed from "National avenue")	6	"	....	....	
Pasco street, I. O., extension to Bay road. (See S. R.-13,239-40)	6	"	458	....	
Second street, I. O., south from Central avenue (not named in 1901;—called "Ludlow Mfg. Co.'s new street 'C'" in tables)	6	"	....	....	
Sherman road, south from Carew street	6	"	19	....	
Sterling street, east from Armory	6	"	271	....	
Sumner avenue, Irvington to Thorndyke street, east	6	"	1,875	....	
Tracy avenue, Liberty street to near Franklin. (See S. R.-13,384-5)	6	"	432	....	
Trinity place, south from Sumner avenue	6	"	16	....	
Wilmont street, east from Dickinson. (See S. R.-13,118-19)	6	"	363	...	4,348
Liberty street, from 6″ (opposite Hawkins foundry) to Heywood avenue (wrongly recorded as 6″ in 1891)	8	"	2,053	....	2,053
Total cast-iron laid by city			6,481	18	6,499
Total wrought-iron laid by city (forward)			871	410	1,281
Total cast-iron laid by private parties (forward)			669	....	669
Total amount added, 1902			8,021	428	8,449

WATER PIPE LAID, ETC., IN 1902—CONCLUDED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Pipe Taken Out or Abandoned.					
Alert street, north from Worthington.	1	Wrought-iron.	....	260	260
Buckingham place, south from Buckingham street (actually 1¼", called 1½" in tables; balance =1½").....	1½	"	143	....	143
Whitney avenue, west from Water street (result of moving hydrant at power house).....	4	Cast-iron.	....	24	24
Liberty street, opposite Hawkins foundry, to Heywood avenue (found to be 8"; —error of 1891).....	6	"	2,053	....	
Ludlow Mfg. Co.'s new street, "A" (now named "Central avenue, I.O.")	6	"	....	....	
Ludlow Mfg. Co.'s new street, "B" (now named "First street, I. O.").....	6	"	....	....	
Ludlow Mfg. Co.'s new street, "C" (now named "Second street, I. O.").	6	"	....	....	
National avenue (name changed to "Parkwood street").....	6	"	....	....	2,053
Armory street, Summer to Van Horn reservoir (106 ft. —less 50 feet deducted in tables for 1895—Van Horn reservoir feeder, south side).	8	"	56	....	56
Total amount taken out or abandoned, 1902.....			2,252	284	2,536
Net addition to tables, 1902.....			5,769	144	5,913

MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1902.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st	6	....	....	....	940	
do. Plainfield st. to Fisk ave	6	....	....	....	719	1,659
Acushnet ave., east from Main st	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Wilbraham ave	6	....	....	2,253	....	
do. Wilbraham ave. to 4″ at Hickory st.	8	....	....	421	....	
do. at Hickory (west)	4	....	....	4	....	2,678
Alderman st. Dickinson to nr. Sorrento ave	6	....	....	992	....	992
Alert st.. north from Worthington	2	....	231	....	....	231
Alexander st	6	....	....	....	762	762
Alfred st	6	....	....	551	....	551
Allen ave., no. from Allen st. (P)(S. R.-9,209)	2	200	....	....	....	
do. north from private pipe	2	86	....	....	....	286
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487	....	5,417
Allendale st	6	....	....	....	707	707
Amherst st	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st.,	6	....	....	....	457	457
Arch st., North Main to east line of Conn. River R. R. location	6	....	....	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	....	
do. from 8″ to near Summer st	1	81	...	....	....	
do. north from 8″ (see S. R.-10,661)	2	92	....	....	...	
do. Summer to Van Horn reservoir	8	....	...	5,515	....	
do. Van Horn reservoir to Springfield st.	12	....	...	2,431	....	9,757
Armory st. ave., east from Armory st	6	....	....	520	....	520
Armory st. court, south from Armory st. ave.	6	....	....	266	....	266
Ashley st	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	
do. south from Adams (see S. R.-13.315)	1¼	....	53	....	....	322
Atwater terrace, west from Rimmon ave	6	....	....	660	...	660
Auburn st	6	....	....	...	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. at Maple st	6	....	....	....	57	
do. east from 6″ at Maple st	4	....	380	....	....	
do. east from cement-lined	4	....	....	....	416	853
Bancroft st., North Main to 8″ at Chestnut.	6	....	....	....	1,511	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st. (P) (S. R. -5,495)	1¼	....	193	....	....	193

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bay st., St. James ave. to Thompson st.	8	1,275	....	....	....	
do. Thompson to Oak Grove cemetery.	8	....	...	3,793	....	5,068
Bay st. ave., so. from Bay st. (see S.R.-11,664)	1¼	150	....	....	....	150
Beacon st., Eastern ave. to Colton st	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beaudry st., I. O., south from Main	6	....	....	498	....	
do. south from 6″ (P) (S. R.-10,768)	1	310	....	...	....	808
Beaumont st.	6	....	....	726	....	726
Beech st.	6	....	....	560	....	560
Beechwood ave., Sumner to Spruceland	6	....	....	565	....	565
Belgrade place, west from Walnut st.	6	....	....	225	....	
do. west from 6″	4	....	....	150	....	375
Bellevue avenue	8	....	....	1,645	....	1,645
Belmont ave., Fort Pleasant to Sumner.	8	....	....	5,383	....	
do. Sumner to Forest	8	....	....	42	....	5,425
Belmont court, south from Belmont ave. (see S.R.-12,367-12,368),	1¼	207	....	....	....	207
Benton ave., east from Benton st.	6	....	...	15	....	
do. east from 6″.	2	451	....	....	....	466
Benton st., State to 6″	4	....	....	1,175	....	
do. from 4″ to Wilbraham road	6	....	....	418	....	1,593
Berendo ave.	6	....	....	419	....	419
Berkeley st., Princeton to Monmouth	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir, "Main No. 1").	24	—	....	...	....	
do. Myrtle to Oak	6	....	....	703	....	703
Beverly st	6	....	....	252	....	252
Bevier st., east from Armory	6	....	....	206	....	206
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st	6	....	....	....	168	
do. Douglas st. to Thomas	6	....	....	....	302	753
do. Wason to Grace st	8	....	....	726	....	
do. south from Grace st.	8	....	....	12	....	
do. Alfred st. to Douglas	6	....	....	304	...	
do. south from Douglas st.	6	....	....	176	....	1,218
Bliss st., Main to railroad	6	....	....	....	1,287	
do. railroad to Mechanics row	2	....	93	....	....	1,380
Bloomfield st., west from Earl	6	....	....	265	....	
do. west from Pasadena ave.	6	....	...	22	....	287
Bond pl., so. from Bridge st. (P) (S. R.-6,033)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6″	4	....	....	183	....	201
Boston ave., south from Boston road (P) (S. R.-8,171)	1¼	172	....	....	....	172
Boston road, east from Berkshire st. (see S.R.-12,314),	6	....	....	130	....	
do. Jasper st. to Ashby	6	....	....	875	....	1,005
Bowdoin st., St. James ave. to Worth'ton st.	4	....	....	1,202	....	
do. Worthington to Ingersoll grove	6	....	....	833	....	2,035
Bowles st., Catharine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st.	6	....	....	....	934	934
Brace st.	6	....	....	378	....	378
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	....	67

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Bridge st., Water to Chestnut	6	....	....	....	1,921	1,921
do. Water to Main	6	....	....	873	....	
do. east from Main	6	....	....	211	....	
do. east from Dwight	6	....	....	135	....	1,219
Brightwood ave., west from Plainfield st	6	....	....	....	176	176
Broad st., west from Main	8	....	1,001	....	....	
do. from 8″ to Hanover	4	....	....	....	52	1,053
Brookline ave	6	....	....	....	660	660
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. from cement-lined to Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham place, so. from Buckingham st.	1¼	143	....	....	....	
do. from 1¼″ to Bay st	1¼	195	....	....	....	338
Buena Vista plaza, west from Long Hill st. (P) (S. R.-10,533)	2	423	....	....	....	423
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6″	4	....	....	....	346	1,515
do. crossing to Everett (proposed st.)	4	....	....	....	197	197
Byers st	6	1,452	....	....	....	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	
do. east from 6″ (see S. R.-12,879)	1¼	....	33	....	....	1,148
do. east from North Main	6	....	....	16	....	16
Cambridge st	6	..	....	1,601	....	1,601
Carew place, north from Carew st	4	....	..	....	166	166
Carew st., Main to North	16	....	875	...	....	
do. at North (east)	16	....	....	....	5	
do. from 16″ at North (east) to Chestnut	8	....	....	....	799	
do. Chestnut to Arbor	6	....	....	....	951	2,630
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	—	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	...	—	....	
do. east from Armory	6	....	....	11	....	30
Carew st. ave., north from Carew st. (P) (S. R.-12,009)	1¼	323	....	....	....	323
Carlisle ave., south from Wilbraham road	6	....	...	692	....	692
Cass st., Linden to Everett	4	....	..	.	359	359
do. Liberty to Franklin	6	....	....	628	....	628
Catharine st., State to Dartmouth	12	....	....	1,961	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. Pine to opposite No. 15	2	390	....	....	....	1,644
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	6	....	....	846	....	
do. from 6″ to Cedar	2	360	....	...	....	1,206
Central ave., I. O., west from Parker st	6	....	....	455	....	455
Central st., east from Main	4	....	...	....	482	
do. from 4″ to 6″ cast-iron at Maple	6	....	937	....	....	
do. at Maple (west)	6	....	....	....	12	1,441
do. east from Main	8	....	....	579	....	
do. Maple to Mill	8	....	....	4,035	....	4,614
Central st. ave., Central st. to Foster court	6	....	....	292	....	292
Chapel st., east from Eastern ave	6	....	....	411	....	411
Chapin pond, pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239
Charles st., Franklin to Liberty	6	....	....	....	650	650
do. south from Liberty	4	....	....	204	....	204
Charter ave., west from Oak st	2	370	....	....	....	370
Chase ave., east from Fort Pleasant	6	....	....	622	....	622
Cherrelyn ave., south from Phœnix	6	....	....	344	....	344
Cherry st., south from Central	6	....	....	1,130	....	
do. from 6″ to Mill st. (see S. R.-12,558)	1¼	380	....	....	....	1,510
Cherryvale ave	6	....	....	731	....	731
Chester st., south from Central (P) (S. R.-6,931)	2	246	....	....	....	
do. south from 2″ (P) (S. R.-6,931)	1¼	39	....	....	....	285
Chestnut st., brook to 20″ cast-iron at Jefferson ave	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. East Taylor to Edwards	6	....	....	....	1,363	
do. south from Edwards	3	....	208	....	....	
do. from 3″ to State	4	....	625	....	....	8,786
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	26	....	
do. Carew to 12″ near Worth'ton (north)	16	....	....	3,185	....	
do. from 16″ to Worthington	12	....	....	63	....	
do. Worthington to Harrison ave	12	....	....	873	....	
do. Harrison ave to 6″	8	....	....	644	....	
do. from 8″ to State st	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	
do. completing at Worcester (south)	4	....	....	15	....	384
Chicopee Falls road, Ludlow, west from 30″ main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave., south from Pynchon st	4	....	....	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Clayton ave., Phœnix to Dupont place	6	....	....	1 158	....	1,158
Cleveland st	6	....	....	1,105	....	1,105
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st	4	....	....	504	....	504
Cliftwood ave	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
Clyde st., west from Plainfield	6	....	....	....	316	316
Coleman st., Boston r'd to beyond Embury st	6	....	....	1,036	....	1,036
College ave., State st. to Shattuck ave	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colonial ave.	6	....	....	850	....	850
Colton st., Wilbraham road to Beacon st	6	....	....	1,680	....	1,680
Columbia terrace, north from Liberty st	6	....	....	246	....	246
Columbus ave., north from Park ave	4	....	....	308	....	
do. north from 4″ (see S. R.-12,137)	1	20	....	....	....	328
Commonwealth ave., Walden st. to beyond Washington	6	....	....	1,326	....	1,326

MAIN AND DISTRIBUTION PIPE.—CONTINUED..

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Concord st., south from Rimmon ave.	2	295	....	....	....	295
Concord terrace, no. from Wilbraham road	2	202	....	....	....	202
Congress st., Main to 4″, near Chestnut	6	....	....	....	1,533	
do. from 6″ to Chestnut	4	....	....	....	60	1,593
Conn. River R. R., east line of location to east line of Plainfield st. (under tracks, connecting Arch and Washburn sts)	6	....	....	....	226	226
Continental ave., south from Sumner	6	....	....	390	....	390
Cook's ave., Bridge st. to North Church ave	4	....	....	....	126	126
Cornell place, north from Cornell st	1¼	106	....	....	....	106
Cornell st.	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck ave	6	....	....	797	....	797
Cottage ave., east from Walnut st (P) (S. R.-7,681-8,916)	1¼	169	....	....	....	
do. Walnut st. to Melrose	6	....	....	296	....	
do. north and thence east from Melrose st.	6	....	....	492	....	957
Court st., Main to 8″ at Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Crescent st., north from Springfield	6	....	....	384	....	384
Crescent terrace (south roadway) at Fort Pleasant ave.	6	....	....	26	....	26
Crosby st., west from Walnut	2	315	....	....	....	315
Cross st., west from Willow	1¼	....	142	....	....	
do. at Willow (east)	6	....	....	12	....	
do. from 6″ to Maple st	4	....	....	605	....	759
Crystal ave.	6	....	....	962	....	962
Cypress ave., at Cypress st.	4	....	....	....	9	
do. north from 4″ at Cypress st	3	....	210	...	....	
do. north from 3″ (see S. R.-13,406)	1	....	70	....	....	280
Cypress st.	6	....	....	....	720	720
do.	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave	12	....	...	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	....	....	479	....	479
Davis st., Ludlow, south from Stebbins	1¼	237	....	....	....	237
Dawes st.	6	....	....	1,250	....	1,250
Dawson ave.	2	401	....	....	....	401
Demond ave.	6	..	....	....	922	922
do. at Fisk ave	6	....	....	2	....	2
Denver st., south from Boston road	6	....	....	960	....	960
Dexter st., George to Knox (P) (S. R.-5,322)	2	719	....	....	....	719
Dickinson st., from opposite No. 34 to Oakland st	8	....	..	1,600	....	
do. Oakland st. to Sumner ave	6	....	....	2,063	....	3,663
Donald st., at North Main	6	....	....	13	....	13
Dorchester st	6	....	....	620	....	620
Douglas st., Birnie ave. to North Main	6	....	....	582	....	
do. east from North Main	6	....	...	561	....	1,143
Dresden ave.	6	....	....	805	....	805
Dupont place, west from Clayton ave. (see S. R.-12,766)	1¼	191	....	....	....	191
Dwight st., State to Worthington	6	....	....	....	1,851	
do. crossing sewer at Worthington (north)	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron High Service	Cast-Iron Low Service	Totals in Feet.
Dwight st., State to Lyman (less 8″ crossing sewer at Worthington, north)	10	....	....	2,322	....	
do. crossing sewer at Worthington (north)	8	....	....	28	....	2,350
Dymon st	6	...	....	525	....	525
Eagle st., North Main to Chestnut	6	....	....	596	....	596
Earl st., Johnson to Bloomfield	2	299	....	....	....	299
East Court st	4	....	....	584	....	584
Eastern ave., in State st., at 24″ main	8	....	....	18	....	
do. from gate at State st. 24″ main to Tyler st	12	...	....	1,568	....	
do. Tyler street to Pendleton ave	12	350	....	....	....	
do. Pendleton ave. to Melrose st	8	....	....	2,509	...	4,445
East Hooker st., east from North Main	6	....	....	....	361	361
do. east from North Main	4	....	....	14	....	14
Edgeland ave., west from Fort Pleasant	6	....	...	488	....	488
Edwards st.	4	....	....	....	737	737
Elizabeth st., south from Berkshire	1¼	326	....	....	....	326
Elliott st	6	....	....	....	1,103	1,103
Elm st., Main to 8″ at Water (east)	6	....	....	....	965	
do. at Water (east)	8	....	....	....	15	
do. west from Water (P) (S. R.-5,748)	1¼	.. .	395	....	.. .	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st. west from Main	6	....	....	....	810	810
Emery st	6	....	....	....	724	724
do.	8	....	...	716	....	716
Essex st., Main to 6″ cast-iron near Chestnut	6	....	1,625	....	....	
do. from 6″ cement lined to Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,440	...	1,440
Euclid ave	6	...	....	1,203	....	1,203
Everett st., Chestnut to near Cass	6	....	....	....	1,186	
do. from 6″ to Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,538
Fairbanks ave., north from Worthington st.	4	....	....	....	261	261
Fairfield st., north from Garfield	6	....	....	934	....	934
Fairview st., east from Groveland ave	6	....	....	96	....	96
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry street, east from Main	6	....	....	....	30	
do. east from 6″	4	....	459	....	....	
do. from 4″ to Chestnut	6	....	....	....	1,083	1,572
Fire reservoirs, sundry streets	4	....	....	....	31	
do. sundry streets	6	....	....	....	86	117
Firglade ave., Sumner to Pineywoods	6	....	....	1,050	....	1,050
First st., I. O., south from Central ave.	6	....	....	183	....	183
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12″ Grace st. line	8	....	.. .	205	....	941
Five Mile pond pumping station:—						
Suction for small pump	10	....	....	6	....	
" " " " (balance left in)	12	....	....	28	....	
Discharge for small pump	12	....	....	38	....	
Suction for large pump	20	....	....	293	....	
Discharge for large pump	12	....	....	15	....	
Discharge line, connecting pumps with Ludlow Main No. 1	16	....	....	2,755	....	
For fire hydrant at pump house	4	....	....	25	....	3,160

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals. in Feet.
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. from 2″ to Walnut	1	88	....	....	....	1,966
Florentine gardens	6	....	....	594	....	594
Florida street, Bay to 6″ cast-iron at Worthington (south)	6	1,520	....	....	....	
do. at Worthington (south)	6	....	....	14	....	
do. Worthington to Ingersoll grove	6	....	....	850	....	2,384
Forest ave., Belmont to Groveland	6	....	....	2,104	....	2,104
Forest park, from Sumner ave. (P)(S. R.-9,099)	6	....	....	2,610	....	
do. for hydrants (P) (S. R.-9,099)	4	....	....	30	....	2,640
Forest st	6	....	....	843	....	843
Fort st	6	....	....	....	715	715
do. west from Main (P) (S. R.-6,490)	4	....	....	76	....	76
Fort Pleasant ave., Mill st. to junction Belmont ave	12	....	....	167	....	
do. Belmont to Sumner	8	....	....	2,755	....	2,922
Foster court	6	....	....	762	....	762
Franklin st., Main to Chestnut	6	....	....	....	1,613	
do. east from Charles	1¼	....	131	....	....	1,744
do. Main to Chestnut	8	....	....	1,583	....	
do. at Chestnut (east) (north from hydrant branch to 6″ main)	6	....	....	15	....	
do. Chestnut to Charles	6	....	....	280	....	
do. west from Cass	6	....	....	514	....	
do. east from Cass (P) (S. R.-6,651)	1¼	128	....	....	....	
do. east from Webster	6	....	....	83	....	
do. near Webster (east) (connecting 6″ and 2″)	1	4	....	....	....	
do. from 6″ to Liberty	2	1,340	....	....	....	
do. at Liberty (for hydrant, only)	6	....	....	34	....	3,981
Fremont st	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner ave	8	....	....	329	....	329
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12″	8	....	399	....	....	
do. west from 8″	6	....	150	....	....	
do. from 6″ to Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st	8	....	....	189	....	189
Garfield st	6	....	....	1,544	....	1,544
Genesee st., at Franklin	1¼	38	....	....	....	
do. north from 1¼″	6	....	....	194	....	232
George st., south from Pine (P) (S. R.-4,979)	2	354	....	....	....	
do. from private 2″ to Maple	2	336	....	....	....	690
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave., crossing to Fisk ave	12	....	....	390	....	1,080
Granada terrace	6	....	....	1,189	....	1,189
Grand ave., White st. to Revere	6	....	....	556	....	556
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....		....	358	
do. north from 6″	4	....	221	....	....	
do. from 4″ to Emery st	6	....	....	....	14	593

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Greene st., Hancock to Eastern ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. from 6″ to Chestnut	4	....	....	....	337	1,608
Grosvenor st	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do. at North Main (east and west)	6	....	....	32	....	32
Groveland ave., Forest to Fairview st	6	....	....	509	....	509
Grover st	6	....	....	1,380	....	1,380
Gunn square (north roadway) east from Northampton ave. (see S. R.-11,512)	1¼	100	....	....	....	
do. (south roadway) east from Northampton ave	1¼	142	....	....	....	242
Hall st	6	....	....	1,019	....	1,019
Hampden st., at Main	12		....	....	28	
do. from cast-iron to Water	12	...	672	....	....	700
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Chestnut to Myrtle	4	750	....	....	....	
do. Myrtle to 6″	4	....	....	662	....	
do. from 4″ to Oak st	6	....	....	35	....	1,447
Hampshire street, I. O	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	...	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	...	
do. Florence to Central	6	....	....	1,126	....	
do. at Central (south)	8	....	....	3	....	
do. south from 8″ at Central	4	....	....	225	....	
do. south from 4″	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	513	513
do. Gardner to York (see note)	8	....	....	789	....	789
(NOTE:—Emergency connection at York st. with 6″ low service main in that st)						
Harriet st., Chestnut to North	6	....	....	....	410	410
Harris road, Ludlow, north from North st	6	....	....	1,763	....	1,763
Harrison ave, Main st. to Dwight	6	....	....	...	649	649
do Main st. to Chestnut	12	....	....	895	...	
do. east from Main st (for Republican blk)	6	....	....	25	....	
do. west from Dwight (short line)	6	....	...	173	....	1,093
Harvard st, Yale to Cornell	6	...	....	1,663	...	1,663
Hawley st	6	515	....	...	....	515
Hawthorn place, Sumner ave. to Park ave	6	....	....	851	...	851
Hawthorn st., Spruce to Hancock	4	....	...	568	....	568
Hayden ave	4	....	....	1,095	....	1,095
Hebron st., North to Chestnut	6	...	....	....	746	746
Heywood ave., south from Liberty st. (P) (S. R.-6,720)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. Walnut st. main to Walnut st. east line	6	125	....	...	....	
do. Walnut st. east line to Alden	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. at Woodbine ave. (east)	4	....	....	11	....	
do. east from 4″ at Woodbine ave	3	799	....	....	....	
do. from 3″ to Carlisle branch (east) (see S. R.-11,027)	1½	1,501	....	....	....	
do. east from 1½″ (see S. R.-11,028)	1	13	....	....	....	
do. south from Wilbraham road (see S. R.-12,284-12,285)	1¼	108	....	....	...	6,208

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
High st., Maple to School	6	....	....	807	....	
do. School to Walnut	6	1,854	....	....	....	2,661
Highland st., Allen to Orange	6	...	...	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P) (S. R.-8,946)	2	....	120	....	....	120
Hobson st., south from Berkshire	1¼	192	....	...	....	192
Hollywood st., east from Forest ave	6	....	...	18	....	18
Holyoke st	6	....	...	...	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	...	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	
do west from city's 6″ (P) (S. R.-13,062)	6	....	....	647	...	661
Howard court, south from Howard st. (see S. R.-8,662)	1¼	....	212	....	....	212
Howard place, south from Howard st	4	....	....	....	160	160
Howard st., Main to Water	6	....	....	...	994	
do. Water to railroad	6	....	362	....	....	
do. west from railroad	2	....	100	....	....	1,456
do. west from Water	6	....	....	42	....	
do. from 6″ to railroad	4	....	....	304	....	346
Howard st., Ludlow, east from North (P) (S. R.-5,629)	1½	441	...	....	.	441
Hubbard ave., Main to Dale	6	...	....	...	621	621
Hunt terrace, north from Allen st	4	....	....	235	....	
do. north from 4″	1½	108	....	.	....	343
Hunter place, north from State st	6	....	....	457	....	457
Hyde ave., east from Plainfield st	6	....	....	.	17	17
do. at Fisk ave	4	....	....	7	....	
do. from 4″ to Plainfield st	6	....	...	930	....	937
Hydrants, sundry streets	4	....	952	....	1,575	
do. sundry streets	6	....	....	....	407	2,934
do. sundry streets	4	....	....	3,899	....	
do. sundry streets	6	....	....	3,107	....	
do. sundry streets	8	....	....	169	...	
do. Hooker st. (P) (S. R.-13,062)	6	....	....	22	....	7,197
Indian Orchard road (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
Irvington ave., south from Sumner	6	....	....	390	....	390
James st	4	....	....	959	....	959
Jasper st	6	....	....	1,079	...	1,079
Jefferson ave., at North Main st	8	....	....	....	10	
do. from 8″ to North st	12	...	....	....	876	
do. North st. to Chestnut	16	....	482	....	....	1,368
do. at North Main st	12	....	....	15	....	
do. from 12″ to North st	6	....	....	792	...	807
John st., west from Plainfield	4	....	....	....	259	
do. from 4″ to Fulton	6	...	....	....	419	678
Johnson st	6	....	....	1,930	...	1,930
Joy st., Ludlow, north from Ludlow Main No. 1	2	244	....	....	....	244
Keith st	6	....	....	1,122	....	1,122
Kenwood park	6	....	....	800	....	800
Kibbe ave., north from Worthington st	6	....	202	....	....	
do. from cement-lined to Summer st	6	....	....	....	38	240
do.	8	...	....	240	....	240

MAIN AND DISTRIBUTION PIPE—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Low Service	Cast-Iron. High Service	Low Service	Totals in Feet.
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	...	
do. Wilbraham ave to Westford	6	..	....	523	....	3,338
King st. ave., King st. to 1″ at Lebanon	2	367	....	...	....	
do. at Lebanon st	1	7	....	....	....	374
Knox st., Dexter to beyond Smith (P) (S. R.-5,464)	2	674	....	....	....	
do. south from 2″ (see S. R.-12,534)	1	68	....	....	....	742
Ladd st	6	....	....	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave, west from Plainfield st	6	..	....	....	674	674
Lebanon pl., so. from King st. (P) (S. R.-5,016)	1¼	336	....	....	....	336
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lenox st	6	....	....	447	....	447
Lexington ave	6	....	....	....	666	
do. (south side) east from Chestnut st. (P) (S. R.-4,880)	2	....	195	....	....	861
Leyfred terrace, north from Belmont ave	6	....	....	593	....	593
Liberty st., east from Main	6	....	....	...	1,195	
do. from 6″ to Chestnut	4	....	.. .	....	276	
do. Chestnut to Charles	6	....	....		319	1,790
do. Main to 8″ (opposite Hawkins foundry)	6	....	....	1,984	....	
do. from 6″ (opposite Hawkins foundry) to Heywood ave	8	...	....	2,053	....	
do. Heywood ave. to Armory st	8	....	....	1,950	....	
do. at Armory (north)	6	....	....	24	...	
do. south from Phœnix ave	8	....	....	164	....	
do. Phœnix ave. to Carew st	8	....	....	1,058	....	7,233
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st	6	....	....	804	...	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from 6″ cast-iron	4	....	1,266	....	....	
do. from 4″ cement-lined to Cass	4	....	....	....	16	1,316
Litchfield st., Belmont ave to Garfield st	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. from cement-lined to Mill	12	....	....	25	....	757
Logan st, at Olive (for flush gate)	6	....	...	10	....	10
Lombard st	4	....	....	....	658	658
Long Hill st., South st. to Cherryvale ave	8	....	....	2,867	....	
do. Cherryvale ave. to opposite E. H. Barney's house	2	1,431	....	....	....	4,298
Loring st., near Main (dead end) to 8″ at Water	6	....	....	....	678	
do. at Water	8	....	....	....	9	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 1.						
From gatehouse to Higher brook as follows:—Crossing highway, thence near and southerly of same through private property, thence recrossing highway and northerly of same through private property to highway at brook	24	....	....	3,736	...	
Higher brook to Federal st. as follows:—Following highway to near Ludlow village, thence westerly, north of Athol branch of B. & A. R. R.—crossing over Chicopee river at "Indian Leap";—thence under tracks of railroad, and south of same to Main st., I. O., just east of Cedar st.;—thence in Main st., I. O., westerly to Myrtle; in Myrtle st. southerly to Berkshire; in Berkshire st. (Indian Orchard road) to State st.; and in State st. to Federal.—(less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	...	....	
Federal to Spring, 1,773 feet (see State st)	16	——	....	....	....	
Spring to Main, 2,026 feet (see State st)	16	....	....	——	....	
Under Athol branch tracks of B. & A. R. R. (at Indian Orchard)	24	....	....	135	...	
Under main tracks of B. & A. R. R. (at dry bridge in Indian Orchard road)	24	....	....	80	....	56,411
(NOTE:—Actual total length of Main No. 1 to Main st. is 60,210 feet, or 2,753 feet more than Main No. 2.)						
Supply Main No. 2.						
From gatehouse, through dam	30	....	....	120	...	
From dam to intersection of Main No. 1 as follows:—Crossing highway, thence southerly of same and of Main No. 1, through private property to point of intersection in highway about midway Ludlow center and Ludlow village	36	....	....	13,388	....	
From intersection of Main No. 1 to 24″ (in Carew st.) as follows:—Crossing highway at point of intersection, thence northerly of Main No. 1, through private property to Chicopee river, just below and west of Indian Orchard, and crossing same under bed of stream; thence through private property to Carew st., just west of St James ave., and thence in Carew st. to 24″, near Prospect st., east	30	....	....	39,890	....	
From 30″ (in Carew st.) to Chestnut st.	24	....	....	2,380	....	
From Chestnut st. (in Carew st.) to Main—(See NOTE at end of Main No. 1.)—	20	....	....	1,670	....	57,457

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
LUDLOW RESERVOIR, as follows:—						
Supply Main No. 2.						
(*Continued.*)						
At Chicopee river:—Auxiliary main for possible future use, laid across and under bed of stream, west of and parallel to Main No. 2—not connected at either end	30	....	....	300	....	300
At Reservoir.						
From distributing canal to cut-off basin	36	....	....	36	....	
Under cut off dam	36	....	...	132	....	
At Cherry Valley drain gate	20	....	...	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8″ cast-iron	6	....	112	....	....	
do. from 6″ cement-lined to Spring	6	....	....	....	436	2,147
do Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st	6	....	....	556	...	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, Sumner avenue to Pineywoods	6	....	....	1,205	....	1,205
Main st., Carew to Liberty (south)	16	....	2,415	...	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	10,163
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services and sewer man hole)	6	....	....	24	....	9,712
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. at 24″ main (east)	8	....	....	24	....	
do from 8″ at 24″ main (east) to Wilbraham line	6	....	....	3,930	...	4,464
MAIN SUPPLY PIPES—(see "Ludlow reservoir," and "Van Horn reservoir")	—	—	—	—	—	
Malden st., Allen to Grand ave	6	....	....	835	....	835
Manhattan st., Walnut to Eastern ave	6	...	...	1,120	....	1,120
Maple ave., east from Maple st	6	....	....	392	...	392
Maple st., State to Central	6	....	....	....	2,138	2,138
do. Stockbridge to Union	6	....	...	857	....	
do. Union to Central	8	....	....	1,235	....	
do Central to Pine	6	1,753	....	....		
do. op. No 310 (connecting 6″ and 4″)	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	...	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maple st., Ludlow, east from Harris road	6	...	....	432	....	432
Mapledell st	6	....	....	1,013	....	1,013
Maplewood terrace (north roadway)	6	....	....	1,378	....	1,378

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Marble st	8	....	....	....	1,084	1,084
Marengo ave	6	....	....	1,381	....	
do. south side of Marengo park	2	590	....	....	....	1,971
Margaret st., Main to Water	6	...	....	....	884	
do. west from Water	4	....	....	....	566	1,450
do. west from Water	6	....	....	531	....	531
Marion st., Bay to McKnight (see Chapin st. for extension)	6	....	....	889	....	889
Market st., State to Harrison ave	6	....	...	....	1,058	1,058
do. State to Sanford	6	.	....	298	....	
do. south from East Court (P) (S. R.-4,262)	3	90	....	....	....	
do. south from Townsley ave	4	....	....	95	....	
do. north from Townsley ave	6	....	....	101	....	584
Marlborough st., east from Norfolk	1¼	86	....	....	....	86
Massachusetts ave., south from Wilbraham road	6	....	....	336	....	336
Massasoit st., Carew to Montmorenci	6	....	....	....	1,921	
do. no. from Montmorenci (P) (S R.-6,519)	1¼	....	158	....	....	2,079
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., at Chestnut	6	....	....	....	24	
do. from 6″ to Elliott st.	4	....	601	....	....	625
do west from Elliott	6	....	....	362	....	362
Maynard ave., south from Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6″	2	....	353	....	....	388
Mechanics row, south from Bliss st	2	....	69	....	....	69
Melrose st. Eastern ave. to Cottage	6	....	....	740	....	740
Mero st., Ludlow, east from Harris road	6	....	....	489	....	489
Merrick ave., King st to 1″ at Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st	6	....	....	730	....	730
Middlesex st. south from Wilbraham road	6	....	....	426	....	426
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. south from Central (see S. R.-12,560)	1¼	467	....	...	....	
do. west from Cherry (see S. R.-12,558)	1¼	70	...	....	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	...	581	....	2,675
Milton st., I. O., south from Main	6	....	....	694	....	
do. south from 6″ (P) (S. R.-10,779 and 10,780)	1¼	203	....	....	....	897
Monmouth st., Berkeley to Yale	6	...	....	479	....	
do. Yale to Dorchester	4	....	...	683	....	1,162
Monroe st., east from Hancock	6	..	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	...	....	730	....	1,708
Monson ave., north from Greene st	2	199	....	....	....	199
Montmorenci st	6	...	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6″	4	....	....	....	63	
do. from 4″ to near North st	6	....	....	....	580	
do. from 6″ to North st.	4	....	....	....	75	896
do. east from North Main	6	....	....	21		21
Morris st., east from Main	6	....	....	....	784	
do. from 6″ to Central	8	....	....	....	326	1,110

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Mulberry st., east from Maple (see S. R.-4,957)	2	445	....	...	....	
do. from 2″ to School (P) (S. R.-3,708)	1	220	....	....	....	
do. School to Union	6	1,380	....	...	....	2,045
Murray Hill ave., Liberty st. to 1″ at Franklin	6	....	....	651	....	
do. at Franklin (connecting)	1	15	....	....	....	666
Myrtle st	4	....	....	548	....	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir, "Main No. 1")	24	—	....	...	....	
do. Berkshire to Essex	8		....	627	....	627
Nelson ave., King st to 1″ at Lebanon	2	358	....	....	....	
do. at Lebanon st. (north)	1	17	...	....	....	
do. Lebanon st. to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	.	180
Newland st., west from Plainfield	6	....	....	....	1,192	1,192
Noel ave., west from Highland st	6	....	....	813	....	813
Norfolk st., south from Wilbraham road	6	....	...	1,284	....	
do. south from 6″	1¼	38	..	....	....	1,322
North st., Carew to Jefferson ave	16	....	2,000	....	....	
do. south from Calhoun (see S. R.-8,713-9,555)	1¼	...	181	....	....	
do. Calhoun to Harriet	6	....	....	....	972	3,153
North st., at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave., Wilbraham road to south roadway of Gunn square (south)	6	...	....	1,660	....	1,660
North Church ave	4	....	....	....	400	400
North Main st., Carew to 8″ gate (opposite No. 279-283), near Grove st (south)	8	....	....	....	3,112	
do. near Grove (south) to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,924	....		
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave.	8	....	....	....	28	6,116
do. Carew to Grace	16	....	....	5,415	.	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (west)	4	....	....	14	....	
do. Grace to Chicopee line (P) (S. R.-7,948)	1¼	1,740	....	....	....	7,193
Norwood st	6	...	....	....	1,016	1,016
Oak st	6	1,450	....	....	...	1,450
Oak st., I. O., north from Main	4	....	....	362	....	
do. Main to Hampshire	6	....	....	1,336	....	
do. Hampshire to old Bay road	4	....	....	1,237	...	
do. old Bay road to High st	6	....	....	734	....	
do. west and north from Parker	6		....	2,328	....	
do. south from Main (see S. R.-10,003)	2	83	....	....	....	
do. south from Worcester (see S. R.-6,671)	1¼	150	....	..	....	6,230
Oak Grove ave., north from State st	6	....	....	678	....	678
Oakland st., at Belmont ave	8	....	....	21	...	
do. from 8″ to Orange st	6	...	....	1,872	....	1,893
Olive st	6	....	....	515	....	515
Orange st., Highland to White	6	....	....	1,581	....	
do. east from White	6	....	....	474	....	2,055

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Orchard street	6	....	....	....	1,452	1,452
Orleans court, Oak st. to 1¼″	1½	255	....	....	....	
do. from 1¼″ to Orleans st. (P) (S. R.-7,871-8,111)	1¼	182	....	....	....	437
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave	6	....	....	858	....	1,613
Osgood st., North Main to 4″ cast iron near North	4	....	925	....	....	
do. from 4″ cement-lined to 8″ at North.	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	....	21	....	21
Ozark st., Orange to Grand ave	6	....	....	610	....	610
Palmer ave., east from Locust st	6	....	....	307	....	
do. east from 6″ (P) (S. R.-5,695)	2	543	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	....	....	2,649	....	
do. Sumner to Pineywoods	6	....	....	832	....	3,481
Park st., east from Willow	3	....	....	....	224	
do. east from 3″	6	....	....	....	202	
do. from 6″ cast-iron to same at Maple	6	....	314	....	....	
do. at Maple	6	....	....	....	30	770
Parker ave., south from Dickinson st	6	....	....	448	....	448
Parker st., Main, I. O., to Oak, I. O.	6	....	....	3,677	....	
do. south from Oak, I. O.	4	....	....	920	....	4,597
Parkwood st., south from Sumner ave	6	....	....	388	....	
do. south from 6″ (see S. R.-13,330)	1	21	....	....	....	409
Pasadena ave., White st. to Johnson	6	....	....	790	....	
do. south from Johnson st	6	....	....	219		1,009
Pasco st., I. O., Essex to Bay road	6	....	....	1,081	....	1,081
Patton st., east from Main	4	....	....	....	810	
do. from 4″ to Chestnut	6	....	....	....	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st., Chestnut to Spring	6	....	....	....	992	992
do. Spring to Byers	6	....	....	296	....	
do. Byers to Federal	4	....	....	2,150	....	2,446
Pencook ave., north from Carew st. (P) (S. R.-10,178)	1¼	387	....	....	....	387
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Phœnix ave., east from Liberty st.	6	....	....	502	....	502
Pine st., Walnut to Cedar (6″ gate, north)	6	....	....	1,679	....	
do. Cedar (6″ gate, north) to Maple (west line)	16	1,894	....	....	....	
do. west from 16″ at Maple (west line)	24	114	....	....	....	
do. from 24″ to Mill (north line produced)	16	766	....	....	....	4,453
Pine st., I.O., Main to beyond Chapman Valve Mfg. Co.'s shops	6	....	....	1,807	....	1,807
Pine st. court	2	365	....	....	....	365
Pineywoods ave., Park boulevard to Hawthorn place	6	....	....	1,753	....	1,753
Plainfield st., north from Bradford	6	....	....	....	17	
do. from 6″, near Bradford, to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6		....	....	278	
do. Washburn to Wason ave	8	....	....	....	4,482	6,125
Pleasant st	4	500	....	....	....	500
Plymouth st	6	....	....	....	500	500

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Pomona ave., Sumner to Granada terrace, (north)	6	....	....	612	....	612
Portsmouth st., east from Eastern ave	6	....	....	243	....	243
Princeton st., Bay to Cornell	6	...	....	1,877	...	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	614	614
do. west from Carew	6	....	....	46	...	46
Pynchon st., at Water	8	....	...	....	15	
do. east from 8″	6	....	....	....	16	
do. east from 6″	3	....	....	....	800	
do. from 3″ to Main st	6	....	...	....	35	866
do. Main to beyond City Hall ave	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. from 4″ to Hancock	6	....	....	356	....	776
Quincy st., Oak to 8″ at Hancock (west)	6	....	....	1,427	....	
do. at Hancock (west)	8	....	....	11	....	
do. at Hancock (east)	8	....	....	8	....	
do from 8″ at Hancock (east) to Eastern ave	6	....	....	1,370	....	
do. Eastern ave. to Colton st	6	....	....	317	....	3,133
Railroad st., west from Main	6	....	....	....	234	
do. from 6″ to Water st	1¼	....	359	....	....	593
Randall ave., north from Allen st	4	....	....	380	....	380
Raymond ave., north from Carew st. (P) (S.R.-8,618)	2	158	....	....	....	
do. north from private pipe	2	100	....	....	....	258
Reed st., south from State (P) (S. R.-5,637) (dead end)	2	690	....	....	....	
do. at Wilbraham road (for hydrant only)	6	....	....	9	....	699
Revere st	6	....	...	1,345	....	1,345
Richelieu place, east from Richelieu st. (P) (S. R.-8,627)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P) (S. R.-8,913)	2	286	....	....	....	
do. west from Mulberry st. (top of hill)	4	....	....	245	....	531
Rimmon avenue, Gladwood to Atwater terrace	6	....	....	1,038	....	1,038
Ringgold st	6	....	....	....	753	753
Ripley ave	2	204	....	....	....	204
Rush ave., south from Berkshire st	1¼	273	....			
Rutland avenue, north from Wilbraham road	1¼	141	....	....	....	273
do. north from 1¼″	3	37	....	....	....	178
Rutledge ave., east from Main st	6	....	....	....	530	530
Sackett's ave., at Worthington st. (P) (S. R.-9,638)	1	10	....	....	....	
do. south from 1″ at Worthington st. (P) (S. R.-9,638)	1¼	190	...	....	....	200
Salem st., Spring to Elliott	6	....	....	....	390	390
do do.	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. from 6″ to Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to 4″ at Dwight	6	....	....	394	....	
do. at Dwight	4	....	....	6	....	400

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Sargeant st	6	....	....	....	963	963
do. west from Main	6	....	....	194	....	194
School st., State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Second st., I. O., south from Central ave	6	....	....	250	....	250
Seventh st., west from Main	4	....	702	....	....	
do. from 4″ to Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st	2	161	....	....	....	
do. south from Noel ave	6	....	....	229	....	
do. south from 6″ (see S. R.-13,367)	1½	81	....	....	....	471
Sharon st	6	....	1,585	....	....	1,585
Shattuck ave., College avenue to Cortland street	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan st	2	....	162	....	....	
do. south from 2″	1½	....	54	....	....	216
Sherman road, south from Carew st	6	....	....	19	....	19
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to opposite No. 164 (P) (S. R.-3,615-3,701)	1	112	....	....	....	1,712
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
Sorrento ave., north from Sumner	6	....	....	259	....	
do. north from Granada terrace (see S. R.-13,142)	1½	179	....	....	....	438
South st., Mill river to Long Hill st	12	....	....	600	....	
do. south from Long Hill st	8	....	....	1,167	....	
do. south from 8″	6	....	....	411	....	2,178
Spencer ave., south from Sumner	1½	173	....	....	....	173
Spring st., State to Worthington	6	....	1,921	....	....	
do. south from Lyman (dead end)	6	....	....	....	350	2,271
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., east from Chestnut (at brook) to 16″ cast-iron	20	....	585	....	....	
do. from 20″ cement-lined to the same from Van Horn reservoir through meadow	16	....	....	....	265	850
do. Chestnut to Armory	8	....	....	3,413	....	
do. Armory to Gladwood ave	12	....	....	153	....	
do. north from Gladwood ave	6	....	....	518	....	
do. connecting high and low services at hospital (see S. R.-5,547-A.)	4	....	....	9	....	4,093
Spruce st	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., from opposite Gas Co.'s boiler house to Water	6	....	....	....	165	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. from 6″ near Main to Maple	8	....	....	....	772	
do. Maple to Elliott	6	....	....	....	783	
do. Elliott to Spring	6	....	349	....	....	3,112

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
State st., from railroad west to Water	4	....	....	330	....	
do. Water to 12″ at Main (west)	8	....	....	923	....	
do. at Main (west)	12	....	....	12	....	
do. Main to Spring	16	....	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. Federal to Indian Orchard road (or Berkshire st.) (see Ludlow reservoir, "Main No. 1")	24	—	....	....	....	
do. Catharine to Eastern ave. (south of 24″ main—for Catharine st)	12	....	....	138	....	
do. west from College (south of 24″ main—for College st)	8	....	....	93	....	5,295
State st. ave., north from State st.	1½	251	....	....	....	251
Stebbins st., State to Union	4	....	....	776	....	776
Stebbins st., Ludlow, west from Harris road	6	....	....	470	....	470
Sterling st., east from Armory	6	....	....	271	....	271
Sterns terrace, north from Central st.	2	475	....	....	....	475
St. James ave., State st. to Bay	8	200	....	....	....	
do. Bay to 8″ at Dartmouth (south)	6	....	....	2,694	....	
do. at Dartmouth (south)	8	....	....	12	....	
do. at Dartmouth (north)	6	....	....	12	....	
do. from 6″ at Dartmouth (north) to 6″ near Lafayette	8	....	....	1,321	....	
do. from 8″ near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	....	470	....	470
Suffolk st., south from Wilbraham road	6	....	....	1,385	....	1,385
Sullivan st., east from Armory	8	....	....	380	....	380
Summer st., east from Spring	6	....	....	....	43	
do. from 6″ to Autumn st	3	....	644	....	....	
do. Autumn st. to Kibbe ave	8	....	....	....	1,221	
do. north to site of old Athol engine house	4	....	....	....	210	2,118
do. Kibbe ave. to Armory st.	8	....	....	1,160	....	1,160
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	701	....	
do. Fort Pleasant to Belmont	8	....	....	4,440	....	
do. Belmont to White st.	8	....	....	2,396	....	
do. White st. to Thorndyke (east)	6	....	....	2,199	....	9,736
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st.	6	....	....	....	735	
do. from east iron to Fisk ave	6	....	42	....	....	777
Taylor ave., west from Willow st.	2	....	197	....	....	197
Taylor st., east from Chestnut	2	....	350	....	....	350
do. Main to Dwight	8	....	....	843	....	
do. east from Dwight	8	....	....	383	....	
do. from 8″ to Chestnut	6	....	....	44	....	1,270
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st.	4	815	....	....	....	815
Thomas street	6	....	....	....	632	632
do. at North Main	6	....	....	44	....	44
Thompson st., State to St. James avenue	8	1,540	....	....	....	
do. St. James avenue to Worthington st.	8	....	....	716	....	2,256
Townsley ave.	6	....	....	174	....	174

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Tracy ave , Liberty st. to near Franklin	6	....	....	432	...	
do. from 6″ to Franklin st	2	30	....	....	....	462
Trinity place, south from Sumner ave	6	....	....	16	....	16
Tyler st., Oak to Hancock	6	1,440	....	...	....	
do. Hancock to Colton	6	....	....	1,689	....	3,129
Union st., railroad to 4″ cast-iron near Water st	4	....	386	....	....	
do. from 4″ cement-lined to Water	4	....	....	....	49	
do. Water to Maple	6	....	....	....	2,123	2,558
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	...	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	....	6,632
VAN HORN RESERVOIR, as follows:—						
From gatehouse through dam	12	....	....	....	200	
From gatehouse through dam	16	....	...	....	200	
From 16″ at dam westerly through meadow to Springfield st	20	....	1,800	....	....	2,200
From Armory st. main to north side of upper basin (high service feeder)	6	....	....	278	....	278
Vassar street	6	....	....	542	....	542
Ventura ave	6	....	....	960	....	960
Vernon st	6	....	....	....	910	910
Vine st	6	....	....	....	823	823
do. west from Main	6	....	....	89	...	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walden st., Forest ave. to Commonwealth	6	....	....	302	....	
do. east from Commonwealth ave. (see S. R.-12,275)	1½	202	....	....	....	504
Walker st	6	....	619	....	....	619
do. Water to Gardner ave	8	....	....	450	....	
do. Gardner ave. to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	830	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	5,127
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., south from Wilbraham road	6	....	....	537	....	537
Wareham st., Orange to Grand ave	4	....	....	595	....	595
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Warwick ave., east from Heywood ave. (P) (S. R.-6,720)	6	....	....	386	...	
do. completion to Armory	6	....	....	867	...	
do. for hydrants (P) (S R.-6,720)	4	....	....	24	....	1,277
Washburn st., west from east line of Plainfield	6	....	....	....	1,453	1,453
Washington st., east from Commonwealth ave	6	....	....	228	....	228
Wason ave., west from North Main st. (less cast-iron opposite shops of Baush Machine Tool Co.)	8	....	631	....	....	
do. opposite above named shops	8	...	....	...	76	
do. from 8″ to Fisk ave	12	....	....	....	213	
do. Fisk ave., to near Plainfield st	10	....	....	....	972	
do. from 10″ to Plainfield st	8	....	.	...	15	1,907

MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Wason ave., at Birnie ave. (west)	8	....	....	93	....	
do. at Fisk ave. (east)	12	....	....	15	....	
do. at Fisk ave. (west)	8	....	....	14	....	122
Water st., Railroad st. to Hampden	6	....	....	....	308	
do. Hampden to Gardner	12	....	4,810	....	....	
do. Walker to Lombard (for fire reservoir, opposite Walker st.)	6	....	....	....	105	5,223
do. State to Howard	8	....	....	476	....	
do. Margaret to Walker	8	....	....	588	....	1,064
Waverly st., No. Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12″	8	....	....	....	33	
do. from 8″ cast-iron to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	...	31
Webster ave., at Pearl st. (north)	4	....	....	....	6	
do. north from 4″	3	....	232	....	....	
do. south from Pearl st. (P) (S. R.-8,496)	1½	...	142	....	....	380
Webster st	6	....	....	668	....	668
Welcome place	6	....	....	252	....	252
Wellesley st	6	....	....	481	....	481
Wellington st., south from Wilbraham road	6	....	....	1,063	....	1,063
Wendell ave., east from Main st	6	....	....	....	465	465
Westford ave., Wilbraham road to King st.	6	....	....	2,160	....	2,160
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., Allen to hydrant, south of Dawson ave. (opposite house No. 244)	6	....	....	2,587	....	2,587
Whitney ave., west from Water st	4	....	....	....	395	395
Wight ave., east from Water st	6	....	....	....	277	
do. east from 6″	1½	....	157	....	....	434
Wilbraham ave., so. from Wilbraham road	6	....	....	1,597	....	
do. 6″ to King st	8	....	....	542	....	
do. north from Alden st	8	....	....	27	...	2,166
Wilbraham road, Eastern ave. to near Carlisle ave. (west)	12	....	....	3,927	....	
do. from 12″ to opposite House of Good Shepherd	8	....	....	1,631	....	
do. east from 8″ (see S. R.-12,284-12,285)	1½	421	....	....	....	
do. west from Reed st. (P) (S. R.-7,329)	1½	153	....	....	...	6,132
Wilcox st., Main to 8″ at Water (east)	6	....	....	...	965	
do. at Water (east)	8	....	....	....	3	
do. at Water (west)	8	....	....	....	3	
do. from 8″ at Water (west) to railroad	4	....	....	....	457	1,428
Willard ave., near State st., to Shattuck ave.	6	....	....	714	....	
do. at Shattuck ave. (north)	6	....	....	8	....	722
William st., railroad to Water	6	....	523	....	....	
do. east from Main	6	....	....	....	23	
do. east from 6″	4	....	227	....	....	
do. from 4″ to Dale	6	....	....	....	388	1,161
do. Water to Main	6	....	....	971	....	
do. east from Main	6	....	....	248	....	1,219
Willow st., State to Taylor ave	6	....	....	....	630	
do. at Taylor ave. (south)	4	....	....	....	3	
do. from 4″ at Taylor ave. (south) to Park st	3	....	....	....	173	
do. north from Hubbard ave. (see S. R.-13,375)	1	....	56	....	....	842
do. State to Hubbard ave	10	....	....	1,220	....	1,220

MAIN AND DISTRIBUTION PIPE—CONCLUDED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Wilmont st., east from Dickinson	6	....	....	363	....	363
Winchester st	4	543	....	....	....	543
Windsor ave	1½	485	....	....	....	485
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st	6	....	....	....	697	697
Wolcott st., east from Liberty	6	....	....	306	....	306
Woodbine ave., north from Hickory st	4	....	....	327	....	
do. north from 4″ (P) (S. R.-8,185)	1¼	192	....	....	....	519
Woodside ave	6	....	....	449	....	449
Woodworth ave	2	457	....	....	....	457
Worcester ave., east from Plainfield st	6	....	....	....	811	
do. from 6″ to Fisk ave	4	....	....	....	52	863
Worcester st., I. O., east from Chestnut	6	....	....	303	....	
do. Myrtle to Oak	6	....	....	735	....	
do. Oak to Pine	2	593	....	....	....	
do. Pine to near Lyons	6	....	....	1,352	....	2,98
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Spring	6	....	....	....	2,114	
do. Spring to Kibbe ave	6	....	1,857	....	....	4,12
do. west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near No. 176	10	....	....	559	....	
do. near No. 176 to Bowdoin	8	....	....	4,672	....	
do. Bowdoin to St. James ave	12	....	....	1,654	....	7,781
Yale st., Dartmouth to Monmouth	6	....	....	1,666	....	1,666
York st, west from Main	8	....	281	....	....	
do. west from wrought-iron	8	....	....	....	183	
do. from 8″ to Hanover (west) (see note)	6	....	....	....	497	961
(NOTE:—6″ connected at Hanover with 8″ high service main in that street, and actually high service west of east end of jail.)						
Totals	....	130,015	51,312	458,836	137,813	777,976

SUMMARY OF
MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1902.

BY SIZES.

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
1-inch	1,010	.....	1,010	126	.....	126	1,136
1½-inch	6,938	.....	6,938	2,001	.....	2,001	8,939
1¼-inch	5,113	.....	5,113	353	.....	353	5,466
2-inch	20,114	.....	20,114	2,729	.....	2,729	22,843
3-inch	926	.....	926	1,326	1,177	2,503	3,429
4-inch	5,779	41,373	47,152	7,562	12,399	19,961	67,113
6-inch	15,588	224,192	239,780	11,428	95,877	107,305	347,085
8-inch	10,317	82,147	92,464	7,589	17,593	25,182	117,646
10-inch	.....	4,107	4,107	.....	972	972	5,079
12-inch	1,782	25,223	27,005	8,084	8,997	17,081	44,086
16-inch	9,874	19,589	29,463	6,014	788	6,802	36,265
20-inch	.....	1,999	1,999	4,100	10	4,110	6,109
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,319	40,319	.....	.....	.....	40,319
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	130,015	458,836	588,851	51,312	137,813	189,125	777,976

BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	130,015	24.62	51,312	9.72	181,327	34.34
Cast-Iron	458,836	86.90	137,813	26.10	596,649	113.00
Totals	588,851	111.52	189,125	35.82	777,976	147.34

GATES SET IN 1902.

(INCLUDING THOSE ADDED.)

ONE AND ONE-QUARTER INCH.

Ashmun street, at Adams (south),	Low,	1	
Buckingham place, north of No. 13 (flush),	High,	1	
Joy street, Ludlow, at Ludlow Main No. 1,	High,	1	
Shamrock avenue, end of 6″,	High,	1	
Spencer avenue, at Sumner,	High,	1	
Tracy avenue, at Franklin street,	High,	1	
		—	6

ONE AND ONE-HALF INCH.

Benton street, near Wilbraham road (flush),	High,	1	
Sorrento avenue, at Granada terrace (north),	High,	1	
Spruceland avenue, at Beechwood (flush),	High,	1	
		—	3

TWO INCH.

Allen street, at Plumtree road (flush).	High,	1
Chase avenue, front of No. 47 (flush),	High,	1
Cornell street, between Wellesley and Princeton (flush),	High,	2
Howard street, at railroad (east), for 2″ main west from railroad (account of 1877),	Low,	1
Lombard street, near Main (flush),	Low,	1
Lowell street, near Plainfield (flush),	Low,	1
Madison avenue, north end (flush),	High,	1
Magnolia terrace, at Spruceland avenue (flush),	High,	1
Ozark street near No. 38 (flush),	High,	1
Park avenue, front of No. 308 (flush),	High,	2
Revere street, near No. 116 (flush),	High,	1
Ridgewood terrace, front of No. 27 (flush),	High,	1
Spruceland avenue, west of Magnolia terrace (flush),	High,	1
Union street, at railroad (east), (S. W. W. flush),	Low,	1
Ventura avenue, front of No. 61 (flush),	High,	1

Wareham street, midway (flush),	High,	1	
Westminster street, near No. 22 (flush),	High,	1	
Worthington street, at Sacketts avenue (east), (flush),	High,	1	
		—	20

THREE INCH.

Commonwealth avenue, at Washington street (flush),	High,	1	
Federal street, for U. S. Armory (private),	High,	1	
Fulton street, at Plainfield (flush),	Low,	1	
Grosvenor street, at Chestnut (flush),	Low,	1	
Main street, at Mill (flush),	Low,	1	
Massasoit street, at Lexington avenue (flush),	Low,	1	
		—	6

FOUR INCH.

Birnie avenue, for B. & M. R. R. Co. (private),	High,	1	
Cook's avenue, at Bridge street,	Low,	1	
Dwight street, for No. 108 (private),	High,	1	
Forest avenue, at Groveland (north), (flush),	High,	1	
Harrison avenue, for Nos. 33–35 (private),	Low,	1	
Harrison avenue, for Nos. 43–45 (private),	High,	1	
Heywood avenue, for Bigelow Wire Works (private),	High,	1	
Hickory street, west of Eastern avenue,	High,	1	
Main street, for No. 166 (private),	High,	1	
North Main street, near Grove (flush),	Low,	1	
Sanford street, for No. 20 (private),	High,	1	
Sherman street, for Tapley schoolhouse (private),	High,	1	
Sumner avenue, at White street (west), (flush),	High,	1	
Worthington street, for Nos. 92–94 (private),	High,	1	
		—	14

SIX INCH.

Bevier street at Armory,	High,	1	
Carew street, at Chestnut (flush),	High,	1	
Grace street line, for E. Stebbins Mfg. Co. (private),	High,	1	
Hillman street, for Nos. 355–359 Main street (private),	High,	1	
Liberty street, for No. 225 (private),	High,	1	

Main street, for Nos. 355–359 (private), . .	High,	1	
Massachusetts avenue, at Wilbraham road, .	High,	1	
Mill street, for Springfield Waste Co. (private).	High,	1	
Sherman road, at Carew street (south), . .	High,	1	
South street, for Bemis & Call H. and T. Co. (private), ...	High,	1	
Sterling street, at Armory, . . .	High,	1	
Sumner avenue, at N. E. R. R. (west), . .	High,	1	
Tracy avenue, at Liberty street, . .	High,	1	
Trinity place, at Sumner avenue, . .	High,	1	
Willow street, for hydrant at Cross, . .	High,	1	
Wilmont street, at Dickinson, . . .	High,	1	
		—	16
Total number of gates added in 1902, .			65

GATES TAKEN OUT IN 1902.

(INCLUDING THOSE ABANDONED.)

ONE INCH.			
Union street, at railroad (east), (S. W. W. flush),	Low,	1	
		—	1
ONE AND ONE-QUARTER INCH.			
Lombard street, near No. 14 (flush), . .	Low,	1	
		—	1
TWO INCH.			
Madison avenue, near No. 39 (flush), . .	High,	1	
		—	1
FOUR INCH.			
Cook's avenue, at Bridge street, . . .	Low,	1	
Mill street, for Springfield Waste Co. (private),	High,	1	
Westminster street, near No. 22 (flush), .	High,	1	
		—	3
Total number of gates deducted in 1902, .			6

Number of gates December 1, 1901, .		1,924
Number of gates added in 1902, . .	65	
Number of gates deducted in 1902, . .	6	
Net addition in 1902, . . .		59
Total number of gates December 1, 1902, .		1,983

FIRE HYDRANTS SET IN 1902.

HIGH SERVICE.

Bevier street, N. E. corner Armory,	1	
Bridge street, front of No. 43,	1	
Chestnut street, opposite Christ Church,	1	
Edgeland avenue, north side, midway,	1	
Parkwood street, front of No. 23,	1	
Pasco street, I. O., N. E. corner Bay road,	1	
Pineywoods avenue, N. E. corner Florentine gardens,	1	
Sherman road, S. E. corner Carew street,	1	
Sumner avenue, at Thorndyke street (east),	1	
Tracy avenue, S. E. corner Franklin street,	1	
Trinity place, S. E. corner Sumner avenue,	1	
Vernon street, N. W. corner Main,	1	
	—	12

LOW SERVICE.

Spring street, S. W. corner Salem,	1	
	—	1
Total number of city hydrants set in 1902,		13

HIGH SERVICE — PRIVATE.

Hooker street, for Springfield Street Railway Co.,	2	
	—	2

FIRE HYDRANTS TAKEN OUT IN 1902.

HIGH SERVICE.

Bridge street, front of No. 43,	1	
Chestnut street, opposite Christ Church,	1	
Edgeland avenue, midway, north side,	1	
Vernon street, N. W. corner Main,	1	
		4

LOW SERVICE.

Spring street, S. W. corner Salem,	1	
		1
Total number of city hydrants taken out in 1902,		5

Number of city hydrants, as per report December 1, 1901,		964
Number of city hydrants set in 1902,	13	
Number of city hydrants taken out in 1902,	5	
Net addition, 1902,		8
Total number of city hydrants December 1, 1902,		972
High service, 716		
Low service, 256		
Number of private hydrants December 1, 1901,	91	
Number of private hydrants set in 1902,	2	
Total number of private hydrants, December 1, 1902,		93
Total number of hydrants connected with the works, December 1, 1902,		1,065

FIRE HYDRANTS

IN USE DECEMBER 1, 1902.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets,	Chapman
2.	L.	N. W. corner Main and Cypress streets,	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue,	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street,	Chapman
5.	L.	Gray's avenue, west side, midway,	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets,	Chapman
7.	H.	N. E. corner Cypress and Boylston streets,	Chapman
8.	L.	N. E. corner Fulton and Cypress streets,	Chapman
9.	H.	N. E. corner Fulton and Cypress streets,	Chapman
10.	H.	N. E. corner Fulton and Emery streets,	Chapman
11.	L.	N. E. corner Fulton and Emery streets,	Chapman
12.	H.	N. E. corner Emery and Boylston streets,	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue,	Chapman
14.	H.	S. W. corner Main and Emery streets,	Chapman
15.	H.	N. W. corner Main and Clinton streets,	Chapman
16.	L.	Clinton street, south side, midway,	Chapman
17.	L.	N. E. corner Fulton and Clinton streets,	Chapman
18.	L.	N. E. corner Fulton and Vine streets,	Chapman
19.	L.	Vine street, south side, midway,	Chapman
20.	H.	N. W. corner Main and Vine streets,	Chapman
21.	H.	N. W. corner Main and Holyoke streets,	Chapman
22.	L.	Holyoke street, north side, midway,	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets,	Chapman
24.	L.	N. E. corner Fulton and Auburn streets,	Chapman
25.	L.	Auburn street, north side, midway,	Chapman
26.	H.	S. W. corner Main and Auburn streets,	Chapman
27.	H.	S. W. corner Main and Seventh streets,	Chapman
28.	L.	Seventh street, north side, midway	Perkins
29.	L.	N. E. corner Fulton and Seventh streets,	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets,	Chapman
31.	L.	Sargeant street, south side, midway, 6″ S. con.,	Chapman
32.	H.	N. W. corner Main and Sargeant streets,	Chapman

No.	High or Low.	Location.	Make.
33.	H.	N. W. corner No. Main and Bradford streets,	Chapman
34.	L.	Bradford street, north side, midway,	Chapman
35.	L.	N. E. corner Fulton and Bradford streets,	Chapman
36.	L.	N. E. corner Fulton and John streets,	Chapman
37.	L.	S. W. corner Plainfield and John streets,	Chapman
38.	L.	Plainfield street, west side, near Plymouth,	Chapman
39.	L.	Fulton street, opposite M. Dunn's house, Round Hill,	Chapman
40.	L.	Plainfield street, east side, at Fulton,	Chapman
41.	L.	N. W. corner Plainfield and Washburn streets,	Chapman
42.	L.	N. W. corner Plainfield and Lowell streets,	Chapman
43.	L.	Lowell street, north side, midway,	Chapman
44.	L.	Lowell street, north side, at end of street,	Chapman
45.	L.	Washburn street, north side, midway,	Chapman
46.	L.	Washburn street, north side, at end of street,	Chapman
47.	L.	Orchard street, north side, at end of street,	Chapman
48.	L.	Orchard street, north side, midway, 6″ S. con.,	Chapman
49.	L.	Orchard street, N. W. corner Plainfield,	Chapman
50.	L.	Newland street, N.W. cor. Plainfield, 6″ S. con.,	Chapman
51.	L.	Newland street, north side, end of pipe, 6″ S. con.,	Chapman
52.	L.	Clyde street, N. W. corner Plainfield, 6″ S. con.,	Chapman
53.	L.	Plainfield street, east side, opposite Clayton,	Chapman
54.	L.	Abbe avenue, N. W. corner Plainfield street,	Chapman
55.	L.	Abbe avenue, just east of No. 154, 6″ S. con.,	Chapman
56.	L.	Talcott avenue, N. E. corner Plainfield street,	Chapman
57.	L.	Talcott avenue, north side, midway,	Chapman
58.	L.	N. W. corner Fisk and Talcott avenues,	Chapman
59.	H.	S. W. corner Fisk and Worcester avenues,	Chapman
60.	L.	N. W. corner Fisk and Worcester avenues,	Chapman
61.	L.	Worcester avenue, north side, midway,	Chapman
62.	L.	N. E. corner Plainfield street and Worcester ave.,	Chapman
63.	L.	N. E. corner Plainfield street and Demond ave.,	Chapman
64.	L.	Demond avenue, north side, midway,	Chapman
65.	H.	S. W. corner Fisk and Demond avenues,	Chapman
66.	H.	Fisk avenue, east end of Holyoke Card and Paper Co.'s shop,	Chapman
67.	H.	S. W. corner Fisk and Hyde avenues,	Chapman
68.	H.	Hyde avenue, S. E. corner Plainfield street,	Chapman
69.	L.	N. E. corner Plainfield street and Hyde avenue,	Chapman

No.	High or Low.	Location.	Make.
70.	L.	S. E. corner Plainfield street and Wason avenue,	Chapman
71.	H.	S. W. corner Wason and Fisk avenues,	Chapman
72.	L.	S. E. corner Wason and Fisk avenues,	Matthews
73.	L.	Wason avenue, north side, opposite No. 31,	Chapman
74.	H.	Birnie avenue, S. E. corner Wason, 6″,	Chapman
75.	L.	North Main street, opposite Wason avenue,	Chapman
76.	H.	Birnie avenue, 200 feet north of Grace street,	Chapman
77.	H.	S. E. corner Birnie avenue and Grace street,	Chapman
78.	L.	Birnie avenue, at the end of Grace street,	Ayers
79.	H.	S. W. corner No. Main and Grace streets,	Chapman
80.	H.	N. W. corner No. Main and Walter streets,	Chapman
81.	H.	Birnie avenue, S. E. corner Alfred street, 6″,	Perkins
82.	H.	Birnie avenue, S. E. corner Douglas street,	Chapman
83.	H.	Birnie avenue, south of preceding,	Chapman
84.	L.	Birnie ave., between the two preceding, 6″ S. con.,	Chapman
85.	H.	Douglas street, N. W. corner No. Main,	Chapman
86.	H.	Douglas street, north side, east end of pipe, 6″ S. con.,	Chapman
87.	H.	N. E. corner No. Main and Grove streets,	Chapman
88.	L.	N. W. corner No. Main and Hooker streets,	Chapman
—	H.	Hooker street, for Street Railway Co., 6″ S. con., (2 private),	Chapman
89.	H.	East Hooker street, N. E. corner No. Main, 6″ S. con.,	Chapman
90.	L.	N. E. corner No. Main and Calhoun streets,	Chapman
91.	H.	S. E. corner No. Main and Calhoun streets,	Chapman
92.	L.	N. E. corner No. Main street and Jefferson ave.,	Chapman
93.	H.	Jefferson avenue, midway No. Main and North streets, 6″ S. con.,	Chapman
94.	L.	Arch street, north side, front of No. 36,	Chapman
95.	H.	N. W. corner No. Main and Arch streets,	Perkins
96.	L.	Bancroft street, south side, midway,	Chapman
97.	H.	N. E. corner No. Main and Bancroft streets,	Chapman
98.	L.	N. E. corner No. Main and Bancroft streets,	Chapman
99.	H.	S. E. corner No. Main and Osgood streets,	Chapman
100.	L.	Morgan street, south side, midway,	Chapman
101.	H.	N. E. corner No. Main and Morgan streets,	Chapman
102.	L.	S. E. corner No. Main and Morgan streets, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
103.	H.	S. E. corner No. Main and Church streets,	Chapman
104.	H.	North street, N. E. corner Carew,	Chapman
105.	L.	N. E. corner Carew and North streets, 6″ S. con.,	Chapman
106.	L.	Carew place, east side, end of pipe,	Chapman
107.	H.	S. E. corner Main and Carew streets,	Chapman
108.	H.	S. E. corner Main and Bond streets,	Chapman
109.	L.	N. E. corner Main and Bond streets,	Chapman
110.	L.	Bond street, north side, midway,	Chapman
111.	L.	Bond street, north side, front of Nos. 110-112,	Chapman
112.	L.	N. W. corner Chestnut and Patton streets,	Chapman
113.	L.	Patton street, north side, front of No. 54,	Chapman
114.	L.	N. E. corner Main and Patton streets,	Chapman
115.	H.	S. E. corner Main and Patton streets,	Chapman
116.	H.	N. E. corner Main and Essex streets,	Chapman
117.	L.	N. E. corner Main and Essex streets,	Perkins
118.	L.	Essex street, north side, opposite No. 51,	Perkins
119.	L.	Essex street, north side, front of No. 98,	Perkins
120.	L.	N. W. corner Chestnut and Tenth streets,	Chapman
121.	L.	Tenth street, north side, opposite Nos. 105-107,	Chapman
122.	L.	Tenth street, north side, front of Nos. 54-56,	Chapman
123.	H.	N. E. corner Main and Tenth streets,	Chapman
124.	H.	N. E. corner Main and Greenwood streets,	Chapman
125.	L.	Greenwood street, north side, front of No. 42,	Chapman
126.	L.	Greenwood street, north side, opposite No. 83,	Chapman
127.	L.	Greenwood street, north side, front of No. 118,	Chapman
128.	H.	S. W. corner Chestnut and Franklin streets,	Chapman
129.	H.	Franklin street, south side, front of Nos. 111-113,	Chapman
130.	H.	Franklin street, south side, at stone yard,	Chapman
131.	H.	Franklin street, south side, opposite No. 46,	Chapman
132.	L.	N. E. corner Main and Franklin streets,	Chapman
133.	H.	Franklin street, S. E. corner Main, 6″ S. con.,	Chapman
134.	H.	S. E. corner Main and Congress streets,	Chapman
135.	L.	Congress street, north side, opposite No. 33,	Chapman
136.	L.	Congress street, north side, opposite No. 97,	Chapman
137.	L.	N. W. corner Chestnut and Sharon streets,	Perkins
138.	L.	Sharon street, north side, front of No. 92,	Perkins
139.	L.	Sharon street, north side, front of No. 52,	Chapman
140.	H.	S. E. corner Main and Sharon streets,	Chapman
141.	H.	S. E. corner Main and Ferry streets,	Chapman

No.	High or Low.	Location.	Make.
142.	L.	Ferry street, north side, front of No. 46,	Chapman
143.	L.	Ferry street, north side, opposite No. 97,	Chapman
144.	L.	Chestnut street, west side, opposite Liberty,	Perkins
145.	H.	Chestnut street, opposite Ferry, 6″ S. con.,	Chapman
146.	H.	Chestnut street, opposite No. 275, 6″ S. con.,	Chapman
147.	H.	Chestnut street, opposite Sharon, 6″ S. con.,	Chapman
148.	H.	Chestnut street, east side, opposite Congress,	Chapman
149.	H.	Chestnut street, S. E. corner Franklin, 6″ S. con.,	Chapman
150.	H.	Franklin street, north side, west of Charles, 6″ S. con.,	Chapman
151.	H.	Chestnut street, opposite Greenwood, 6″ S. con.,	Chapman
152.	H.	Chestnut street, opposite Tenth, 6″ S. con.,	Chapman
153.	H.	N. E. corner Chestnut and Linden streets, 6″ S. con.,	Chapman
154.	L.	Linden street, near S. E. corner Chestnut,	Chapman
155.	L.	Linden street, south side, opposite No. 46,	Perkins
156.	L.	S. W. corner Cass and Linden streets,	Chapman
157.	L.	S. W. corner Cass and Everett streets,	Chapman
158.	L.	Everett street, south side, midway,	Chapman
159.	H.	Chestnut street, opposite Patton, 6″ S. con.,	Chapman
160.	L.	S. E. corner Chestnut and Everett streets,	Chapman
161.	L.	Arbor street, east side, front of No. 40,	Chapman
162.	H.	Prospect street, S. W. corner Carew, 6″ S. con.,	Chapman
163.	H.	Massasoit street, N. E. corner Carew,	Chapman
164.	L.	N. W. corner Carew and Massasoit streets, 6″ S. con.,	Chapman
165.	H.	Chestnut street, S. E. corner Carew,	Chapman
166.	L.	N. E. corner Chestnut and Carew streets,	Chapman
167.	L.	N. W. corner Chestnut and Grosvenor streets,	Chapman
168.	L.	Grosvenor street, south side, midway,	Chapman
169.	L.	N. E. corner North and Grosvenor streets,	Chapman
170.	L.	N. E. corner North and Ringgold streets,	Chapman
171.	L.	S. W. corner North and Morgan streets,	Chapman
172.	L.	Ringgold street, south side, midway,	Chapman
173.	L.	S. W. corner Chestnut and Ringgold streets,	Chapman
174.	L.	N. W. corner Chestnut and Hebron streets,	Chapman
175.	L.	Hebron street, north side, midway,	Chapman
176.	L.	S. W. corner Prospect and Massasoit streets,	Chapman
177.	L.	N. W. corner Chestnut and Allendale streets,	Chapman

No.	High or Low.	Location.	Make.
178.	L.	Allendale street, south side, midway,	Chapman
179.	L.	N. W. corner North and Osgood streets,	Chapman
180.	L.	S. W. corner North and Bancroft streets,	Perkins
181.	L.	Brookline avenue, S. W. corner Chestnut street, 6″ S. con.,	Chapman
182.	L.	S. W. corner Chestnut and Bancroft streets,	Chapman
183.	L.	Lexington avenue, N. W. corner Massasoit street,	Chapman
184.	L.	S. W. corner North street and Jefferson avenue,	Chapman
185.	H.	N. W. corner North street and Jefferson avenue, 6″ S. con.,	Chapman
186.	L.	N. W. corner Montmorenci and Massasoit streets,	Chapman
187.	L.	Montmorenci street, north side, midway,	Chapman
188.	L.	N. W. corner Chestnut street and Jefferson ave.,	Chapman
189.	L.	Calhoun street, north side, at North,	Chapman
190.	L.	Alexander street, N. E. corner North,	Chapman
191.	L.	S. W. corner Chestnut and Waverly streets,	Chapman
192.	L.	Harriet street, N. E. corner North, 6″ S. con.,	Chapman
193.	L.	Chestnut street, west side, near Springfield,	Chapman
194.	H.	Merwin street, N. W. corner Chestnut, S. con.,	Chapman
195.	H.	Eagle street, N. W. corner Chestnut, S. con.,	Chapman
196.	H.	Springfield street, opposite city hospital, 6″ S. con.,	Chapman
197.	H.	Springfield street, midway Chestnut and Armory, 6″ S. con.,	Chapman
198.	H.	Atwater terrace, north side, end of pipe,	Chapman
199.	H.	Rimmon avenue, south side, end of pipe,	Perkins
200.	H.	Rimmon avenue, S. W. corner Gladwood,	Perkins
201.	H.	Springfield street, S. W. corner Armory,	Perkins
202.	H.	Bevier street, N. E. corner Armory,	Chapman
203.	H.	Armory street, front of truant school, 6″ S. con.,	Chapman
204.	H.	N. E. corner Carew and Armory streets,	Chapman
205.	H.	Grover street, north side, midway Armory and Liberty, 6″ S. con.,	Chapman
206.	H.	Grover street, N. W. corner Liberty, 6″ S. con.,	Chapman
207.	H.	Sherman road, S. E. corner Carew street,	Chapman
208.	H.	Clayton avenue, east side, end of pipe, 6″ S. con.,	Chapman
209.	H.	Cherrelyn avenue, S.E. corner Phœnix, 6″ S. con.,	Chapman
210.	H.	Cleveland street, N.W. corner Liberty, 6″ S. con.,	Chapman
211.	H.	Cleveland street, N. E. corner Armory, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
212.	H.	Sullivan street, N. E. corner Armory, 6″ S. con.,	Chapman
213.	H.	S. E. corner Liberty and Armory streets,	Chapman
214.	H.	Armory street, east side, opposite Wolcott, 6″ S. con.,	Chapman
215.	H.	Liberty street (about 200 feet W. of Wolcott street), 6″ S. con.,	Chapman
216.	H.	Liberty street, front of Gurdon Bill's, 6″ S. con.,	Chapman
217.	H.	Franklin street, N. W. corner Liberty, 6″ S. con.,	Chapman
218.	H.	Tracy avenue, S. E. corner Franklin street,	Chapman
219.	H.	Columbia terrace, west side, at end of pipe, 6″ S. con.,	Chapman
220.	H.	S. W. corner Liberty street and Heywood avenue,	Chapman
—	H.	Warwick avenue, N.E. corner Heywood (private)	Chapman
—	H.	Warwick avenue, east of preceding (2 private),	Chapman
221.	H.	Warwick avenue, north side, opposite Taber-Prang Co.'s shop, 6″ S. con.,	Chapman
222.	H.	Liberty street, south side, opposite Webster,	Chapman
223.	H.	N. E. corner Liberty and Vinton streets,	Chapman
224.	H.	Vinton street, S. E. corner Franklin,	Chapman
225.	H.	Webster street, S. W. corner Franklin, 6″ S. con.,	Chapman
226.	H.	Cass street, S. E. corner Franklin,	Chapman
227.	H.	Franklin street, north side, midway Cass and Charles, 6″ S. con.,	Chapman
228.	H.	Liberty street, south side, opposite Cass,	Chapman
229.	H.	Liberty street, north side, front of No. 200,	Chapman
230.	H.	S. E. corner Liberty and Charles streets,	Chapman
231.	L.	Charles street, west side, midway Franklin and Liberty 6″ S. con.,	Chapman
232.	H.	Charles street, west side, near B. & A. R. R. freight house,	Chapman
233.	H.	S. E. corner Chestnut and Liberty streets,	Chapman
234.	H.	N. E. corner Chestnut street and driveway to B. & A. R. R. freight house,	Chapman
235.	H.	S. W. corner Chestnut and Liberty streets,	Chapman
236.	H.	N. W. corner Chestnut and Liberty streets, 6″ S. con.,	Chapman
237.	L.	Liberty street, north side, opposite Day & Jobson's planing mill,	Perkins
238.	H.	Liberty street, south side, front of R. R. station,	Chapman

No.	High or Low.	Location.	Make.
239.	L.	Liberty street, south side, opposite No. 74,	Chapman
240.	L.	Liberty street, south side, east of Cooley's hotel,	Chapman
241.	H.	Liberty street, south side, east of Cooley's hotel,	Chapman
242.	L.	Liberty street, S. E. corner Main, 6″ S. con.,	Chapman
243.	H.	S. E. corner Main and Liberty streets, 6″ S. con.,	Chapman
244.	H.	Main street, east side, just north of arch,	Chapman
245.	L.	Railroad street, S. W. corner Main, 6″ S. con.,	Chapman
246.	L.	Railroad street, at driveway of Massasoit house, 6″ S. con.,	Chapman
247.	L.	S. E. corner Water and Railroad streets,	Matthews
248.	H.	S. E. corner Water and Hampden streets,	Perkins
249.	H.	Hampden street, north side, midway,	Perkins
250.	L.	S. W. corner Main and Hampden streets, 6″ S. con.,	Chapman
251.	L.	Fort street, south side, midway,	Chapman
252.	L.	S. E. corner Water and Fort streets,	Chapman
253.	L.	S. W. corner Main and Worthington streets,	Chapman
254.	L.	N. W. corner Main and Bridge streets,	Chapman
255.	H.	Bridge street, north side, opposite Bond place,	Chapman
256.	H.	Bond place, west side, south end,	Chapman
257.	H.	Bridge street, south side, front of No. 43, 6″ S. con.,	Chapman
258.	L.	N. E. corner Water and Bridge streets,	Chapman
259.	H.	N. W. corner Water and Bridge streets,	Chapman
260.	L.	Wight avenue, north side, at end of avenue,	Chapman
261.	L.	N. E. corner Water and Vernon streets,	Chapman
262.	L.	Vernon street, north side, midway,	Chapman
263.	H.	N. W. corner Main and Vernon streets, 6″ S. con.,	Chapman
—	H.	Besse place (private),	Chapman
264.	L.	Main street, west side, front of No. 360, 6″ S. con.,	Chapman
265.	L.	Main street, west side, front of No. 388, 6″ S. con.,	Chapman
266.	L.	S. W. corner Main and Vernon streets,	Chapman
267.	H.	N. W. corner Main and Pynchon streets,	Matthews
268.	L.	S. W. corner Main and Pynchon streets,	Chapman
269.	H.	Pynchon street, south side, front of city hall park,	Chapman
270.	H.	City Hall avenue, west side, midway,	Chapman
271.	L.	N. E. corner Water and Pynchon streets,	Chapman
272.	L.	Court street, south side, near Water,	Chapman
273.	L.	Court street, south side, midway,	Chapman

No.	High or Low.	Location.	Make.
274.	H.	Court street, south side, opposite City hall, 6″,	Perkins
275.	L.	N. W. corner Main and Court streets, 6″ S. con.,	Chapman
276.	H.	S. W. corner Main and Court streets,	Chapman
277.	H.	N. W. corner Main and Elm streets, 6″,	Perkins
278.	L.	S. W. corner Main and Elm streets, 6″ S. con.,	Chapman
279.	H.	Elm street, S. W. corner Court square,	Chapman
280.	L.	Elm street, south side, midway,	Chapman
281.	L.	N. E. corner Water and Elm streets,	Chapman
282.	H.	State street, west of N. Y., N. H. & H. R. R.,	Chapman
283.	H.	N. E. corner Water and State streets, 6″,	Perkins
284.	L.	S. E. corner Water and State streets,	Chapman
285.	H.	State street, north side, front of No. 52, 6″ S. con.,	Chapman
286.	L.	State street, south side, front of No. 71, 6″ S. con.,	Chapman
287.	H.	State street, north side, near Court House,	Chapman
288.	L.	S. W. corner Main and State streets,	Chapman
289.	H.	N. W. corner Main and Bliss streets,	Chapman
290.	L.	S. W. corner Main and Bliss streets, 6″ S. con.,	Chapman
291.	L.	Bliss street, south side, front of No. 29,	Chapman
292.	L.	Bliss street, south side, front of Nos. 57-59,	Chapman
293.	H.	Water street, N. E. corner Bliss,	Chapman
294.	L.	N. E. corner Water and Bliss streets,	Chapman
295.	L.	Bliss street, south side at railroad, 6″ S. con.,	Chapman
296.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.,	Chapman
297.	L.	Howard street, south side, near N. Y., N. H. & H. R. R.,	Perkins
298.	H.	Water street, N. E. corner Howard,	Chapman
299.	L.	N. W. corner Water and Howard streets,	Chapman
300.	L.	Howard street, south side, front of No. 43,	Perkins
301.	H.	N. W. corner Main and Howard streets,	Chapman
302.	L.	S. W. corner Main and Howard streets,	Chapman
303.	L.	S. W. corner Main and Union streets,	Chapman
304.	L.	Union street, south side, midway Main and Water,	Chapman
305.	L.	S. E. corner Water and Union streets,	Chapman
306.	L.	Wilcox street, north side, near railroad,	Chapman
307.	L.	S. E. corner Water and Wilcox streets,	Chapman
308.	L.	Wilcox street, south side, front of No. 47,	Chapman
309.	H.	N. W. corner Main and Wilcox streets,	Chapman
310.	L.	S. W. corner Main and Wilcox streets,	Chapman

No.	High or Low.	Location.	Make.
311.	H.	S. W. corner Main and William streets,	Chapman
312.	H.	William street, north side, front of No. 120,	Chapman
313.	H.	William street, north side, opposite No. 83,	Chapman
314.	L.	N. W. corner Water and William streets,	Perkins
315.	L.	William street, north side, near railroad,	Perkins
316.	L.	Margaret street, north side, near railroad,	Chapman
317.	H.	Margaret street at street railway power house, 6″ S. con.,	Chapman
318.	H.	Water street, S. W. corner Margaret, 6″ S. con.,	Chapman
319.	L.	N. E. corner Water and Margaret streets,	Chapman
320.	L.	Margaret street, south side, opposite Nos. 42-44,	Chapman
321.	H.	N. W. corner Main and Margaret streets,	Chapman
322.	L.	S. W. corner Main and Margaret streets,	Chapman
323.	L.	S. W. corner Main and Fremont streets,	Chapman
324.	L.	Fremont street, south side, front of No. 41,	Chapman
325.	L.	N. E. corner Water and Fremont streets,	Chapman
326.	L.	Whitney avenue, north side, end of avenue,	Chapman
327.	H.	Water street, west side, near Loring,	Chapman
328.	H.	Loring street, north side, front of No. 34,	Chapman
329.	H.	N. W. corner Main and Loring streets,	Chapman
330.	L.	Lombard street, north side, opposite No. 25,	Chapman
331.	H.	S. W. corner Water and Walker streets,	Chapman
332.	H.	Walker street, south side, near Walker's shop,	Chapman
333.	L.	Walker street, north side, midway, 6″ S. con.,	Chapman
334.	H.	Walker street, south side, near railroad,	Chapman
335.	H.	S. E. corner Gardner and Hanover streets,	Chapman
336.	L.	Gardner street, north side, front of No. 96,	Chapman
337.	H.	Gardner street, south side, opposite Gardner ave.,	Chapman
338.	L.	N. E. corner Water and Gardner streets,	Perkins
339.	L.	N. E. corner Hanover and Norwood streets,	Perkins
340.	L.	Norwood street, south side, midway,	Chapman
341.	L.	N. W. corner Main and Norwood streets,	Chapman
342.	L.	S. W. corner Main and Broad streets, 6″ S. con.,	Chapman
343.	L.	S.E. corner Hanover and Broad streets, 6″ S. con.,	Chapman
344.	H.	Hanover street, east side, near Broad,	Chapman
345.	L.	Elmwood street, north side, near Barney & Berry's shop,	Chapman
346.	H.	N. W. corner Hanover and York streets,	Chapman
347.	L.	York street, north side, front of schoolhouse,	Chapman

No.	High or Low.	Location.	Make.
348.	L.	N. W. corner Main and York streets,	Perkins
349.	H.	Main street, east side, opposite No. 962,	Matthews
350.	H.	South street, east side, opposite No. 5,	Chapman
351.	H.	S. E. corner South and Long Hill streets,	Chapman
352.	H.	South street, east side, below Long Hill, 6″ S. con.,	Chapman
353.	H.	South street, east side, at south end bridge, 6″ S. con.,	Chapman
354.	H.	Long Hill street, east side, near brick yard,	Chapman
355.	H.	Warner place, north side, midway, 6″ S. con.,	Chapman
356.	H.	Long Hill street, east side, north of Sumner ave.,	Chapman
357.	H.	N. E. corner Long Hill street and Sumner ave.,	Chapman
358.	H.	Long Hill street, east side, near Spruceland ave.,	Chapman
359.	H.	Spruceland avenue, south side, opposite No. 50,	Perkins
360.	H.	Long Hill street, N. E. corner Cherryvale avenue, 6″ S. con.,	Chapman
361.	H.	Pineywoods avenue, N. W. corner Washington boulevard, 6″ S. con.,	Chapman
362.	H.	Pineywoods ave., N. E. cor. Florentine gardens,	Chapman
363.	H.	Spruceland ave., S. W. corner Magnolia terrace,	Chapman
364.	H	Magnolia terrace, just south of No. 83,	Chapman
365.	H.	Firglade avenue, east side, north of Spruceland,	Chapman
366.	H.	Pineywoods ave., N.E. corner Firglade, 6″ S. con.,	Chapman
367.	H.	Park avenue, west side, end of pipe,	Chapman
368.	H.	Hawthorn place, east side, south of No. 51,	Chapman
369.	H.	S. E. corner Sumner ave. and Hawthorn place,	Chapman
370.	H.	S. E. corner Sumner and Firglade avenues,	Chapman
371.	H.	Magnolia terrace, at Sumner avenue,	Chapman
372.	H.	N W corner Sumner and Fort Pleasant avenues,	Chapman
373.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″ S con.,	Chapman
374.	H.	Maplewood terrace, north side, midway, S. con.,	Chapman
375.	H.	Maplewood terrace, N. W. corner Park avenue,	Chapman
376.	H.	S. E. corner Forest street and Park avenue,	Chapman
377.	H.	Park avenue, N. E. corner Sumner,	Chapman
378.	H.	Greenleaf street, N. E. corner Sumner avenue,	Chapman
379.	H.	Sumner avenue, south side, at Forest Park, 6″ S. con.,	Chapman
380.	H.	Churchill street, N. E. corner Sumner avenue,	Chapman
381.	H.	Churchill street, S. E. corner Garfield,	Chapman

No.	High or Low.	Location.	Make.
382.	H.	Greenleaf street, S. E. corner Garfield,	Chapman
383.	H.	Fairfield street, north side, midway,	Chapman
384.	H.	Belmont avenue, S. E. corner Litchfield street,	Chapman
385.	H.	Litchfield street, N. E. corner Garfield,	Chapman
386.	H.	N.W. corner Belmont avenue and Oakland street,	Chapman
387.	H.	Oakland street, west side, opposite No. 46,	Chapman
388.	H.	Kenwood park, N. W. corner Belmont avenue, 6″,	Chapman
389.	H.	Beaumont street, N. W. corner Belmont avenue, 6″ S. con.,	Chapman
390.	H.	Brace street, N. W. corner Belmont avenue, 6″ S. con.,	Chapman
391.	H.	Continental avenue, east side, end of pipe, 6″ S. con.,	Chapman
392.	H.	Parkwood street, front of No. 23,	Chapman
393.	H.	Cliftwood avenue, S.E. corner Sumner, 6″ S. con.,	Chapman
394.	H.	Lenox street, at end of same, 6″ S. con.,	Chapman
395.	H.	Sumner avenue, S. W. corner Belmont,	Chapman
396.	H.	Forest avenue, about 300 ft. south of Sumner, 6″ S. con.,	Chapman
397.	H.	Hollywood street, N. E. corner Forest, 6″ S. con.,	Chapman
398.	H.	Commonwealth avenue, east side, 350 ft. south of Walden street, 6″ S. con.,	Chapman
399.	H.	Commonwealth avenue, east side, 175 ft. south of Washington street, 6″ S. con.,	Chapman
400.	H.	Fairview street, N. E. corner Groveland avenue, 6″ S. con.,	Chapman
401.	H.	Groveland avenue, N. E. corner Forest, 6″ S. con.,	Chapman
402.	H.	Sorrento ave., N. E. corner Sumner, 6″ S. con.,	Chapman
403.	H.	Sumner avenue, south side, opposite Lester street, 6″ S. con.,	Chapman
404.	H.	Sumner ave., south side, east of Converse street, 6″ S. con.,	Chapman
405.	H.	Pomona avenue, opposite Granada terrace, 6″ S. con.,	Chapman
406.	H.	Granada terrace, in grass plot at Sorrento avenue, east,	Chapman
407.	H.	Ventura avenue, S. E. corner Granada terrace, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
408.	H.	Granada terrace, N. E. corner Dickinson street, 6″ S. con.,	Chapman
409.	H.	Berendo avenue, S. E. corner Alderman street, 6″ S. con.,	Chapman
410.	H.	Ventura avenue, S. E. corner Alderman street, 6″ S. con.,	Chapman
411.	H.	Dickinson street, west side, opposite Alderman street, 6″ S. con.,	Chapman
412.	H	Kenwood park, west side, midway, 6″,	Chapman
413.	H.	Kenwood park, S. W. corner Dickinson street, 6″,	Chapman
414.	H.	Johnson street, at Dickinson, 6″,	Chapman
415.	H.	Parker avenue, west side, end of pipe, 6″ S. con.,	Chapman
416.	H.	Oakland street, N. W. corner Dickinson,	Chapman
417.	H.	Crystal avenue, S. W. corner Dickinson street, 6″ S. con.,	Chapman
418.	H.	Hall street, S. W. corner Dickinson,	Chapman
419.	H.	Hall street, west side, midway,	Chapman
420.	H.	N. E. corner Belmont avenue and Hall street,	Chapman
421.	H.	Forest street, east side, about midway,	Chapman
422.	H.	N. E. corner Belmont avenue and Keith street,	Chapman
423.	H.	Keith street, west side, front of No. 51,	Chapman
424.	H.	S. W. corner Keith and Dickinson streets,	Chapman
425.	H.	Euclid avenue, S. W. corner Dickinson street,	Chapman
426.	H.	Euclid avenue, west side, midway,	Chapman
427.	H.	Belmont avenue, N. W. corner Marengo,	Chapman
428.	H.	Marengo avenue, S. W. corner Dickinson street, 6″ S. con.,	Chapman
429.	H.	Marengo avenue, at La Verne, 6″ S. con.,	Chapman
430.	H.	Bellevue avenue, S. E. corner La Verne,	Perkins
431.	H.	Bellevue avenue, S. W. corner Dickinson street,	Chapman
432.	H.	Belmont avenue, east side, opposite No. 134,	Chapman
433.	H.	Woodside avenue, at end of pipe, 6″ S. con.,	Chapman
434.	H.	Park avenue, N. E. corner Fort Pleasant,	Chapman
435.	H.	Chase ave., N.E. corner Fort Pleasan , 6″ S. con.,	Chapman
436.	H.	Chase avenue, N. W. corner Riverview street, 6″ S. con.,	Chapman
437.	H.	Edgeland avenue, north side, midway,	Chapman
438.	H.	Crescent terrace, in park at Fort Pleasant avenue, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
439.	H.	Leyfred terrace, N. E. corner Belmont avenue, 6″ S. con.,	Chapman
440.	H.	Belmont avenue, west side, at Fort Pleasant,	Chapman
441.	H.	Mill street, south side, midway Locust and Main,	Matthews
442.	H.	Locust street, N. E. corner Mill, 6″ S. con.,	Chapman
443.	H.	Mill street, north side, opposite Howard's waste mill,	Perkins
444.	H.	Pine street, north side, at Mill,	Chapman
445.	H.	Warriner avenue, north side, end of pipe,	Chapman
446.	H.	Palmer avenue, north side, 300 ft. east of Locust street, 6″ S. con.,	Chapman
447.	L.	Main street, east side, at Locust,	Matthews
448.	H.	Main street, N. E. corner Acushnet avenue, 6″,	Chapman
449.	L.	Acushnet avenue, north side, midway,	Chapman
450.	L.	Acushnet avenue, north side, end of pipe,	Chapman
451.	H.	Main street, N. E. corner Rutledge avenue, 6″,	Chapman
452.	L.	Rutledge avenue, north side, midway,	Perkins
453.	L.	Wendell avenue, 6″ S. con.,	Chapman
454.	H.	Main street, east side, opposite Broad, 6″,	Chapman
455.	H.	Main street, N. E. corner Marble, 6″,	Chapman
456.	L.	Marble street, N. E. corner Main, 6″	Chapman
457.	L.	Marble street, north side, midway, 6″,	Chapman
458.	L.	Marble street, north side, end of pipe, 6″,	Chapman
459.	H.	Main street, east side, opposite Gardner, 6″,	Chapman
460.	L.	Main street, east side, opposite Gardner,	Perkins
461.	H.	Main street, east side, front of No. 739, 6″,	Chapman
462.	H.	Main street, east side, opposite Lombard, 6″,	Chapman
463.	H.	Main street, S. E. corner Adams, 6″,	Chapman
464.	L.	Adams street, south side, midway,	Chapman
465.	L.	Ashmun street, east side, opposite Adams,	Chapman
466.	L.	Central street, north side, opposite No. 63, 6″ S. con.,	Chapman
467.	H.	Central street, north side, midway Main and Morris, 6″ S. con.,	Chapman
468.	H.	N. E. corner Main and Central streets,	Chapman
469.	H.	N. E. corner Main and Morris streets,	Chapman
470.	L.	Morris street, north side, opposite No. 40,	Chapman
471.	L.	Morris street, east side, at angle,	Chapman
472.	L.	Winthrop street, N. W. corner Dale, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
473.	L.	Winthrop street, north side, midway, 6″ S. con.,	Chapman
474.	H.	N. E. corner Main and Winthrop streets,	Chapman
475.	H.	N. E. corner Main and William streets,	Chapman
476.	H.	William street, south side, midway Main and Dale,	Chapman
477.	L.	N. W. corner William and Dale streets,	Chapman
478.	H.	N. E. corner Willow street and Hubbard avenue,	Chapman
479.	H.	S. E. corner Main street and Hubbard avenue,	Chapman
480.	H.	N. E. corner Main and Union streets,	Chapman
481.	H.	N. E. corner Union and Willow streets,	Perkins
482.	L.	S. E. corner Union and Dale streets,	Chapman
483.	H.	S. W. corner Park and Willow streets,	Perkins
484.	H.	N. E. corner Main and Park streets,	Chapman
485.	H.	S. E. corner Main and Cross streets,	Chapman
486.	H.	N. E. corner Willow and Cross streets, 6″ S. con.,	Chapman
487.	H.	Cross st., south side, midway Maple and Willow,	Chapman
488.	H.	S. E. corner Main street and Crossett avenue,	Chapman
—	H.	Willow st., in yard of Geo. W. Tapley (private),	Chapman
489.	H.	S. E. corner Main and Stockbridge streets,	Chapman
490.	L.	Stockbridge st., S. W. corner Willow, 6″ S. con.,	Chapman
491.	H.	N. E. corner Willow and Stockbridge streets, 6″ S. con.,	Chapman
492.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop,	Perkins
493.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop,	Perkins
494.	H.	S. E. corner State and Willow streets,	Perkins
495.	H.	State street, S. W. corner Willow, 6″ S. con.,	Chapman
496.	H.	N. E. corner State and Dwight streets,	Chapman
497.	L.	N. W. corner State and Dwight streets,	Chapman
498.	H.	N. W. corner State and Market streets,	Chapman
499.	H.	N. E. corner State and Main streets, 6″ S. con.,	Chapman
500.	H.	N. E. corner Main and Sanford streets, 6″ S. con.,	Chapman
501.	L.	S. W. corner Market and Sanford streets,	Chapman
502.	L.	Sanford street, north side, midway Market and Dwight,	Chapman
503.	H.	Sanford street, north side, near Dwight,	Perkins
504.	H.	Sanford street, N. E. corner Market, 6″ S. con.,	Chapman
505.	L.	S. W. corner Dwight and East Court streets,	Chapman

No.	High or Low.	Location.	Make.
506.	H.	N. W. corner Dwight and East Court streets,	Perkins
507.	L.	Dwight street, S. W. corner New, 6″ S. con.,	Chapman
508.	H.	N. W. corner East Court and New streets,	Chapman
509.	H.	S. W. corner East Court and Market streets,	Chapman
510.	H.	S. E. corner Main and East Court streets,	Matthews
511.	H.	Main street, east side, front of No. 445, 6″ S.con.,	Chapman
512.	H.	Main street, east side, front of No. 415, 6″ S. con.,	Chapman
513.	H.	N. E. corner Main street and Townsley avenue,	Matthews
514.	H.	Main street, east side, opposite Pynchon,	Matthews
515.	H.	N.W. corner Market street and Townsley avenue,	Chapman
516.	L.	S. W. corner Harrison avenue and Market street,	Chapman
517.	H.	S. E. corner Main street and Harrison avenue,	Chapman
518.	H.	Harrison avenue, N. E. corner Main street, 6″,	Perkins
519.	H.	Main street, east side, opposite Vernon, 6″,	Matthews
520.	H.	Harrison ave., north side, opposite Market st., 6″,	Chapman
521.	H.	Harrison avenue, north side, front of No. 44, 6″,	Perkins
522.	H.	Harrison avenue, south side, front of No. 37, 6″,	Perkins
523.	H.	Harrison avenue, N. W. corner Dwight street, 6″,	Chapman
524.	L.	S. W. corner Harrison avenue and Dwight street,	Chapman
525.	H.	N. E. corner Harrison avenue and Dwight street,	Perkins
526.	H.	Dwight street, front of No. 109, 6″ S. con.,	Chapman
527.	L.	S. W. corner Dwight and Hillman streets,	Chapman
528.	H.	N. W. corner Dwight and Hillman streets,	Chapman
529.	H.	Hillman street, N. W. corner Barnes, 6″ S. con.,	Chapman
530.	H.	Hillman street, south side, midway,	Chapman
531.	H.	N.E. corner Main and Hillman streets, 6″ S. con.,	Chapman
532.	H.	N. E. corner Main and Bridge streets,	Chapman
533.	L.	Bridge street, S. E. corner Barnes, 6″ S. con.,	Chapman
534.	L.	Bridge street, north side, at Stearns park,	Chapman
535.	L.	Dwight street, S. W. corner Bridge, 6″ S. con.,	Chapman
536.	H.	N. E. corner Bridge and Dwight streets, 6″ S. con.,	Chapman
537.	L.	S. E. corner Worthington and Dwight streets, 6″ S. con.,	Chapman
538.	H.	N. W. corner Worthington and Dwight streets,	Chapman
539.	H.	S. E. corner Worthington street and Stearns ave.,	Chapman
540.	L.	Worthington street, south side, front of No. 99,	Chapman
541.	H.	N. E. corner Main and Worthington streets,	Chapman
542.	H.	Main street, east side, opposite Fort,	Chapman

No.	High or Low.	Location.	Make.
543.	H.	N. E. corner Main and Taylor streets,	Matthews
544.	H.	Taylor street, south side, front of No. 23,	Matthews
545.	H.	Taylor street, north side, opposite No. 51,	Matthews
546.	H.	N. E. corner Taylor and Dwight streets,	Perkins
547.	H.	Taylor st., north side, front of No. 96, 6″ S. con.,	Chapman
548.	H.	S. E. corner Lyman and Dwight streets,	Perkins
549.	L.	Lyman street, north side, opposite Dwight,	Chapman
550.	H.	Lyman street, south side, front of No. 53,	Perkins
551.	L.	Lyman street, north side, opposite Nos. 39-43,	Chapman
552.	H.	Lyman street, north side, opposite Nos. 27-31,	Perkins
553.	H.	N. E. corner Main and Lyman streets,	Matthews
554.	L.	Lyman street, S. E. corner Main, 6″ S. con.,	Chapman
555.	H.	Main st., east side, opposite Hampden, 6″ S. con.,	Chapman
556.	H.	Main street, east side, just south of arch,	Chapman
557.	H.	N. E. corner Chestnut and Lyman streets,	Chapman
558.	H.	Chestnut street, S. W. corner Lyman, 6″,	Chapman
559.	H.	Lyman street, north side, midway Spring and Chestnut,	Chapman
560.	L.	S. E. corner Chestnut and Lyman streets,	Perkins
561.	H.	N. E. corner Chestnut and Taylor streets,	Chapman
562.	L.	Chestnut street, east side, opposite Taylor, 6″ S. con.,	Chapman
563.	H.	N. W. corner Chestnut and Taylor streets,	Chapman
564.	H.	N. E. corner Chestnut and Worthington streets,	Chapman
565.	L.	S. W. corner Chestnut and Worthington streets,	Chapman
566.	H.	Chestnut street, S. W. corner Worthington, 6″,	Chapman
567.	L.	Chestnut street, east side, near Bridge,	Chapman
568.	H.	Chestnut street, N. W. corner Bridge, 6″,	Chapman
569.	L.	S. E. corner Chestnut and Pearl streets,	Chapman
570.	H.	Chestnut street, west side, opposite Pearl, 6″,	Chapman
571.	H.	Chestnut street, west side, opposite Mattoon, 6″,	Chapman
572.	H.	Chestnut street, N. W. corner Harrison ave., 6″,	Chapman
573.	H.	Chestnut street, west side, opposite Edwards, 6″,	Chapman
574.	L.	Edwards street, north side, opposite No. 37,	Perkins
575.	L.	Chestnut street, west side, opposite No. 55,	Chapman
576.	H.	Chestnut street, west side, opposite No. 49, 6″,	Chapman
577.	H.	Chestnut st., west side, opposite Christ church,	Chapman
578.	H.	N. E. corner State and Chestnut sts., 6″ S. con.,	Chapman
579.	H.	State street, north side, near City Library,	Perkins

No.	High or Low.	Location.	Make.
580.	H.	State street, north side, at Cathedral, 6″ S. con.,	Chapman
581.	H.	N. W. corner State and Elliott streets,	Matthews
582.	L.	Elliott street, west side, front of convent,	Chapman
583.	H.	N. W. corner State and Spring streets,	Matthews
584.	H.	N. E. corner Spring and Frost streets,	Chapman
585.	L.	S. W. corner Spring and Salem streets,	Chapman
586.	H.	Spring street, east side, opposite Salem, 6″,	Perkins
587.	L.	Elliott street, S. E. corner Salem, 6″ S. con.,	Chapman
588.	H.	Salem street, north side, opposite Elliott,	Chapman
589.	L.	Pearl street, north side, opposite Salem, 6″ S. con.,	Chapman
590.	H.	S. E. corner Pearl and Spring streets,	Chapman
591.	H.	Pearl street, north side, at Byers,	Chapman
592.	H.	Pearl street, north side at angle,	Chapman
593.	H.	Pearl street, north side, front of No. 242,	Chapman
594.	H.	N. W. corner Pearl and Federal streets,	Chapman
595.	H.	N. E. corner Worthington and Federal streets,	Perkins
596.	H.	Worthington street, north side, opposite No. 863,	Chapman
597.	H.	N. E. corner Worthington street and Kibbe ave.,	Chapman
598.	H.	Worthington street, north side, opposite Sackett's avenue,	Chapman
599.	L.	S. W. corner Worthington street and Sackett's ave.,	Perkins
600.	H.	Worthington street, north side, opposite No. 755,	Chapman
601.	H.	N. E. corner Worthington and Autumn streets,	Chapman
602.	H.	Worthington st., north side, opposite schoolhouse,	Chapman
603.	L.	Worthington street, S. W. corner Spring, 6″ S. con.,	Chapman
604.	H.	N. E. corner Worthington and Spring streets,	Chapman
605.	H.	N. E. corner Worthington and Alert streets,	Chapman
606.	L.	Worthington street, south side, opposite Alert, 6″ S. con.,	Chapman
607.	H.	N. E. corner Spring and Summer streets,	Chapman
608.	L.	Lyman street, south side, front of Gilbert & Barker's shop,	Chapman
609.	H.	Lyman street, north side, at Spring,	Chapman
610.	L.	Summer street, north side, opposite Autumn,	Perkins
611.	L.	Summer street, south side, front of No. 103,	Perkins
612.	L.	Summer street, south side, front of No. 147,	Perkins
613.	H.	Summer street, S. E. corner Kibbe avenue, 6″,	Chapman
614.	H.	Summer street, S. W. corner Federal, 6″,	Chapman

No.	High or Low.	Location.	Make.
615.	H.	Armory street, N. W. corner Warwick avenue, 6″ S. con.,	Chapman
616.	H.	Armory street, east side, at paint shops,	Chapman
617.	H.	Armory street court, S. E. corner Armory street avenue, 6″ S. con.,	Chapman
618.	H.	Worthington street, N. W. corner Armory, 6″ S. con.,	Chapman
619.	H.	N. E. corner Armory and Grant streets,	Chapman
620.	H.	Federal street, west side, at Armory gate,	Matthews
621.	H.	N. E. corner Federal and Lincoln streets,	Perkins
622.	H.	Lincoln street, N. W. corner Magazine, S. con.,	Chapman
623.	H.	N. W. corner Magazine and Grant streets,	Chapman
624.	H.	S. E. corner Armory and Magazine streets,	Chapman
625.	H.	Worthington street, south side, midway Armory and Bowdoin, 6″ S. con.,	Chapman
626.	H.	S. E. corner Worthington and Bowdoin streets,	Perkins
627.	H.	Bowdoin street, east side, midway Worthington street and St. James avenue,	Chapman
628.	H.	S. E. corner Bowdoin street and Ingersoll grove,	Chapman
629.	H.	Ingersoll grove, east side, at angle,	Chapman
630.	H.	S. W. corner Florida and Worthington streets,	Matthews
631.	H.	S. E. corner Worthington and Thompson streets,	Chapman
632.	H.	Thompson street, east side, midway St. James avenue and Worthington street,	Chapman
633.	H.	Dartmouth terrace, east side, front of No. 45,	Chapman
634.	H.	S. W. corner Harvard street and St. James ave.,	Chapman
635.	H.	S. E. corner Harvard and Cornell streets,	Chapman
636.	H.	S. E. corner Cornell and Wellesley streets,	Chapman
637.	H.	S. E. corner Cornell and Princeton streets,	Chapman
638.	H.	S. W. corner St. James avenue and Princeton st.,	Chapman
639.	H.	St. James avenue, west side, opposite Dorchester street,	Chapman
640.	H.	N. E. corner Dorchester and Monmouth streets,	Chapman
641.	H.	N. W. corner Lafayette and Amherst streets,	Chapman
642.	H.	N. W. corner Monmouth and Yale streets,	Chapman
643.	H.	Monmouth street, at Berkeley,	Chapman
644.	H.	N. W. corner Princeton and Yale streets,	Chapman
645.	H.	Princeton street, south side, between Vassar and Amherst,	Chapman

No.	High or Low.	Location.	Make.
646.	H.	Harvard street, south side, midway St. James ave. and Yale street,	Chapman
647.	H.	N. W. corner Harvard and Yale streets,	Chapman
648.	H.	N. E. corner Dartmouth and Yale streets,	Chapman
649.	H.	Dartmouth street, north side, midway,	Chapman
650.	H.	S. E. corner Dartmouth street and St. James ave.,	Chapman
651.	H.	S. E. corner Clarendon street and St. James ave.,	Chapman
652.	H.	Clarendon street, north side, between Bay street and St. James avenue,	Chapman
653.	H.	S. W. corner Buckingham and Clarendon streets,	Chapman
654.	H.	N. E. corner Buckingham street and Buckingham place,	Chapman
655.	H.	S. E. corner Buckingham and Bay streets,	Chapman
656.	H.	S. E. corner Bay and Westminster streets,	Chapman
657.	H.	Westminster street, east side, midway St. James avenue and Bay street,	Chapman
658.	H.	S. E. corner Westminster street and St. James avenue,	Chapman
659.	H.	S. E. corner Thompson street and St. James ave.,	Chapman
660.	H.	S. E. corner Thompson and Bay streets,	Perkins
661.	H.	S. E. corner Bay and Pleasant streets,	Chapman
662.	H.	S. W. corner Florida street and St. James ave.,	Matthews
663.	H.	N. E. corner St. James avenue and Bowdoin st.,	Chapman
664.	H.	N. E. corner State street and St. James avenue,	Perkins
665.	H.	N. E. corner State and Pleasant streets,	Perkins
666.	H.	N. E. corner State and Westminster streets,	Perkins
667.	H.	Buckingham street, east side, front of No. 69,	Chapman
668.	H.	N. E. corner Sherman and State streets,	Perkins
669.	H.	S. E. corner Sherman and McKnight streets,	Chapman
670.	H.	S. E. corner Sherman and Bay streets,	Chapman
671.	H.	S. E. corner Catharine and Bay streets,	Chapman
672.	H.	N. E. corner Catharine and McKnight streets,	Chapman
673.	H.	Catharine street, east side, front of No. 71,	Chapman
674.	H.	Catharine street, east side, front of No. 37,	Chapman
675.	H.	State street, south side, at Winchester park engine house,	Chapman
676.	H.	State street, north side, at N. E. R. R., 6″ S. con.,	Chapman
677.	H.	Chapin street, east side, midway,	Chapman
678.	H.	Marion street, west side, south end,	Chapman

No.	High or Low.	Location.	Make
679.	H.	N. E. corner Bowles and McKnight streets,	Chapman
680.	H.	Bowles st., east side, midway Bay and McKnight,	Chapman
681.	H.	S. E. corner Bowles and Bay streets,	Chapman
682.	H.	Welcome place, east side, end of pipe,	Chapman
683.	H.	Marion street, east side, midway,	Chapman
684.	H.	N. W. corner McKnight street and Girard ave.,	Chapman
685.	H.	S. E. corner Bay street and Girard avenue,	Chapman
686.	H.	Clifford street, south side, midway,	Chapman
687.	H.	Bay street, south side, front of No. 401,	Chapman
688.	H.	Dawes street, west side, midway,	Chapman
689.	H.	S. E. corner Bay street and Oak Grove avenue,	Chapman
690.	H.	Cambridge street, east side, front of No. 45,	Chapman
691.	H.	Cambridge street, east side, opposite No. 84,	Chapman
692.	H.	Andrew street, east side, midway,	Chapman
693.	H.	Hayden avenue, east side, midway,	Perkins
694.	H.	N E corner State and Andrew streets,	Perkins
695.	H.	Hunter place, west side, midway, 6″ S. con.,	Chapman
696.	H.	Montrose street, east side, midway, 6″,	Chapman
697.	H.	Mapledell street, N. E. corner State, 6″ S. con.,	Chapman
698.	H.	Mapledell street, S. E. corner Burr, S. con.,	Chapman
699.	H.	Oak Grove avenue, N. E. corner State street, 6″ S. con.,	Chapman
700.	H.	College avenue, S. E. corner Shattuck,	Chapman
701.	H.	College avenue, east side, midway State street and Shattuck avenue,	Chapman
702.	H.	State street north side, N. E. corner College ave.,	Chapman
703.	H.	Maynard avenue, west side, near State street,	Chapman
704.	H.	Willard avenue, west side, front of No. 42,	Chapman
705.	H.	State street, north side, midway Willard avenue and Courtland street,	Chapman
706.	H.	Courtland street, west side, midway,	Chapman
707.	H.	Dresden avenue, east side, midway, 6″ S. con.,	Chapman
708.	H.	State street, north side, opposite Colonial avenue,	Chapman
709.	H.	S. E. corner State and Benton streets,	Chapman
—	H.	State street, in Almshouse yard (2 private),	Chapman
710.	H.	State street, north side, front of Alden Warner's,	Chapman
711.	H.	Boston road, north side, near Jasper st., 6″ S. con.,	Chapman
712.	H.	Coleman street, east side, 388 feet south of Boston road, 6″ S. con.,	Chapman

No.	High or Low.	Location.	Make.
713.	H.	Denver street, east side, end of pipe,	Chapman
714.	H.	Boston road, north side, opposite Ashby street, 6″ S. con.,	Chapman
715.	H.	Benton avenue, N. E. corner Benton street, 6″ S. con.,	Chapman
716.	H.	Benton street, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
717.	H.	Wilbraham road, front of House of Good Shepherd, 6″ S. con.,	Chapman
718.	H.	Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
719.	H.	Carlisle avenue, east side, end of pipe, 6″ S. con.,	Chapman
720.	H.	Norfolk street, S. E. corner Wilbraham road,	Chapman
721.	H.	Norfolk street, east side, end of pipe,	Chapman
722.	H.	Suffolk street, east side, end of pipe,	Chapman
723.	H.	Colonial avenue, N. E. corner Wilbraham road, 6″ S. con.,	Chapman
724.	H.	Middlesex street, corner Wilbraham road,	Chapman
725.	H.	Wellington st., east side, end of pipe, 6″ S. con.,	Chapman
726.	H.	Reed street, N. E. corner Wilbraham road,	Chapman
727.	H.	N. E. corner Wilbraham road and College street,	Chapman
728.	H.	Westford avenue, S. E. corner Wilbraham road, 6″ S. con.,	Chapman
729.	H.	Northampton ave., S. E. corner Wilbraham road,	Chapman
730.	H.	Northampton avenue, east side, at No. 49,	Chapman
731.	H.	Northampton avenue, east side, opposite No. 108,	Chapman
732.	H.	Westford avenue, east side, opposite Gunn square, 6″ S. con.,	Chapman
733.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.,	Chapman
734.	H.	King street, N. W. corner Westford avenue, 6″ S. con.,	Chapman
735.	H.	Wilbraham avenue, N. E. corner King street, 6″ S. con.,	Chapman
736.	H.	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.,	Chapman
737.	H.	Wilbraham ave., east side, just north of No. 151,	Perkins
738.	H.	Wilbraham avenue, east side, north of Beverly st.,	Chapman
739.	H.	Wilbraham avenue, east side, front of No. 25,	Chapman

No.	High or Low.	Location.	Make.
—	H.	Wilbraham road, front of Elektron Mfg. Co.'s shop (private),	Chapman
740.	H.	S. E. corner Waltham ave. and Wilbraham road,	Chapman
741.	H.	S. W. corner Colton street and Wilbraham road,	Chapman
742.	H.	S. W. corner Wilbraham road and Eastern ave.,	Chapman
743.	H.	S. E. corner State and Winchester streets,	Chapman
744.	H.	S. E. corner State and Hancock streets,	Perkins
745.	H.	N. E. corner Monroe and Hancock streets,	Chapman
746.	H.	Monroe street, north side, front of No. 72,	Perkins
747.	H.	N. W. corner Monroe street and Eastern avenue,	Chapman
748.	H.	N. W. corner Monroe and Colton streets,	Chapman
749.	H.	S. W. corner Colton and Union streets,	Chapman
750.	H.	S. W. corner Union street and Eastern avenue,	Chapman
751.	H.	Union street, south side, front of No. 709,	Chapman
752.	H.	Union street, south side, opposite No. 660,	Chapman
753.	H.	S. E. corner Union and Hancock streets,	Matthews
754.	H.	N. W. corner Hancock and Quincy streets,	Chapman
755.	H.	Quincy street, north side, opposite No. 181,	Chapman
756.	H.	Quincy street, north side, front of No. 230,	Chapman
757.	H.	N. W. corner Quincy street and Eastern avenue,	Chapman
758.	H.	N. W. corner Quincy and Colton streets,	Chapman
759.	H.	N. W. corner Tyler and Colton streets,	Chapman
760.	H.	S. W. corner Tyler street and Eastern avenue,	Chapman
761.	H.	Tyler street, north side, front of No. 220,	Chapman
762.	H.	Tyler street, north side, opposite No. 183,	Chapman
763.	H.	N. W. corner Hancock and Tyler streets,	Matthews
764.	H.	N. W. corner Hancock street and Pendleton ave.,	Perkins
765.	H.	Pendleton avenue, north side, opposite No. 163,	Chapman
766.	H.	Pendleton avenue, north side, opposite No. 209,	Chapman
767.	H.	N. W. corner Pendleton and Eastern avenues,	Chapman
768.	H.	Beacon street, south side, at Colton,	Chapman
769.	H.	King street, N. W. corner Logan,	Chapman
770.	H.	N. W. corner Eastern avenue and King street,	Chapman
771.	H.	King street, north side, front of No. 184,	Chapman
772.	H.	King street, north side, opposite Nelson avenue,	Chapman
773.	H.	N. W. corner Lebanon street and Nelson avenue,	Chapman
774.	H.	N. E. corner King and Hancock streets,	Matthews
775.	H.	N.W. corner Lebanon street and Merrick avenue,	Chapman
776.	H.	Eastern avenue, east side, opposite Lebanon st.,	Chapman

No.	High or Low.	Location.	Make.
777.	H.	N. W. corner Granville and Logan streets,	Chapman
778.	H.	N. W. corner Olive and Logan streets,	Chapman
779.	H.	N. W. corner Ladd and Logan streets,	Chapman
780.	H.	Collins street, near N. W. corner Logan,	Chapman
781.	H.	N. W. corner Greene street and Eastern avenue,	Chapman
782.	H.	Greene street, north side, front of No. 88,	Chapman
783.	H.	N. W. corner Greene street and Nelson avenue,	Chapman
784.	H.	N. E. corner Greene and Hancock streets,	Matthews
785.	H.	Alden street, north side, front of No. 24,	Chapman
786.	H.	Alden street, north side, front of No. 86,	Chapman
787.	H.	N. W. corner Alden street and Eastern avenue,	Chapman
788.	H.	Alden street, N. W. corner Logan,	Perkins
789.	H.	Alden street, north side, at Hickory, 6″ S. con.,	Chapman
790.	H.	Hickory street, N. E. corner Woodbine avenue,	Chapman
791.	H.	Hickory street, north side, opposite Flagg's brick ice house,	Chapman
792.	H.	Manhattan street, N. W. corner Eastern avenue,	Chapman
793.	H.	Manhattan street, north side, midway,	Chapman
794.	H.	N. E. corner Manhattan and Walnut streets,	Chapman
795.	H.	Walnut street, east side, opposite No. 396,	Matthews
796.	H	Eastern avenue, S. W. corner Marshall place, 6″ S. con.,	Chapman
797.	H.	Melrose street, N. W. corner Eastern avenue, 5″ S. con.,	Chapman
798.	H.	Melrose street, north side, midway, 5″ S. con.,	Chapman
799.	H.	Hickory street, north side, at No. 130, 6″ S. con.,	Chapman
800.	H.	Hickory street, north side, at No. 110, 6″ S. con.,	Chapman
801.	H.	N. E. corner Hickory and Walnut streets,	Matthews
802.	H.	Allen street, north side, at White,	Chapman
803.	H.	Allen street, north side, near No. 121,	Chapman
804.	H.	Hunt terrace, end of 4″ pipe,	Chapman
805.	H.	Randall avenue, west side, end of pipe,	Chapman
806.	H.	Allen street, north side, opposite No. 228,	Chapman
807.	H.	Allen street, north side, west of N. E. R. R.,	Chapman
808.	H.	Allen street, north side, just east of N. E. R. R.,	Perkins
809.	H.	Allen street, north side, midway N. E. R. R. and Plumtree road,	Perkins
810.	H.	Allen street, N. W. corner Plumtree road,	Chapman
811.	H.	Sumner avenue, at Thorndyke street, east,	Chapman

No.	High or Low.	Location.	Make.
812.	H.	Trinity place, S. E. corner Sumner avenue,	Chapman
813.	H.	Irvington avenue, at end of pipe, 6″ S. con.,	Chapman
814.	H.	White street, west side, south of Dawson avenue,	Chapman
815.	H.	Johnson street, north side, near Pasadena avenue,	Perkins
816.	H.	Bloomfield street, N. W. corner Pasadena avenue, 6″ S. con.,	Chapman
817.	H.	White street, west side, front of No. 74,	Chapman
818.	H.	White street, west side, opposite church,	Chapman
819.	H.	Orange st., east of White, end of pipe, 6″ S. con.,	Chapman
820.	H.	Orange street, S. W. corner Ranney	Chapman
821.	H.	Grand avenue, between Ozark and Wareham sts., 6″ S. con.,	Chapman
822.	H.	Orange street, south side, between Revere and Malden, 6″ S. con.,	Chapman
823.	H.	Revere street, N. E. corner Grand ave., 6″ S. con.,	Chapman
824.	H.	Malden street, N. E. corner Grand ave 6″ S. con.,	Chapman
825.	H.	Highland street, N. W. corner Orange,	Chapman
826.	H.	Noel avenue, N. W. corner Shamrock,	Chapman
827.	H.	Noel avenue, east side, end of pipe,	Chapman
828.	H.	Highland street, N. W. corner Shamrock avenue,	Chapman
829.	H.	S. W. corner Highland and Allen streets,	Chapman
830.	H.	S. W. corner Mill and Allen streets,	Chapman
831.	H.	N. E. corner Mill and Central streets,	Matthews
832.	H.	S. E. corner Hancock and Centra streets,	Matthews
833.	H.	Hancock st., west side, south of Central, at end,	Chapman
834.	H.	Mill street, south side, opposite Maple,	Chapman
835.	H.	Cherry street, north side, just west of No. 92,	Chapman
836.	H.	Cherry street, north side, opposite No. 51,	Chapman
837.	H.	N. W. corner Cherry and Central streets,	Chapman
838.	H.	N. E. corner Spruce and Central sts., 6″ S. con.,	Chapman
839.	H.	Spruce street, east side, front of No. 34,	Perkins
840.	H.	Hancock avenue, N. E. corner Spruce street, 6″ S. con.,	Chapman
841.	H.	Hancock avenue, north side, midway, S. con.,	Chapman
842.	H.	N. W. corner Hancock street and Hancock ave.,	Chapman
843.	H.	N. W. corner Hancock and Hawthorn streets,	Chapman
844.	H.	Hawthorn street, north side, midway,	Chapman
845.	H.	S. W. corner Hancock and Florence streets,	Matthews
846.	H.	S. W. corner Florence and Spruce streets,	Matthews

No.	High or Low.	Location.	Make.
847.	H.	Beech street, east side, midway,	Chapman
848.	H.	Central street ave., S.W. corner Central street, 6″ S. con.,	Chapman
849.	H.	Foster court, west roadway,	Chapman
850.	H.	Foster court, east roadway,	Chapman
851.	H.	Central street, south side, front of No. 319,	Matthews
852.	H.	N. E. corner Pine and Central streets,	Perkins
853.	H.	N. E. corner Pine and Cedar streets,	Matthews
854.	H.	Ashley street, north side, opposite No. 49,	Chapman
855.	H.	Ashley street, north side, front of No. 92,	Chapman
856.	H.	N. W. corner Ashley and Walnut streets,	Chapman
857.	H.	Belgrade place, N. W. corner Walnut street,	Chapman
858.	H.	N. W. corner Cedar and Walnut streets,	Perkins
859.	H.	N. W. corner Lebanon and Hancock streets,	Matthews
860.	H.	Queen street, north side, opposite No. 43,	Chapman
861.	H.	N. W. corner Walnut and James streets,	Matthews
862.	H.	James street, west side, midway,	Chapman
863.	H.	King st., north side, midway Hancock and Walnut,	Chapman
864.	H.	S. E. corner Pendleton avenue and Walnut street,	Perkins
865.	H.	N.E. corner Pendleton avenue and Orleans street,	Chapman
866.	H.	N. E. corner Tyler and Orleans streets,	Perkins
867.	H.	Tyler st., north side, front of Blake Mfg. Co.'s shop,	Perkins
868.	H.	N. E. corner Quincy and Stebbins streets,	Chapman
869.	H.	N. W. corner Quincy and Orleans streets,	Chapman
870.	H.	N. E. corner Quincy and Oak streets,	Perkins
871.	H.	S. W. corner Oak street and Charter avenue,	Chapman
872.	H.	N. E. corner Union and Orleans streets,	Perkins
873.	H.	N. W. corner Union and Stebbins streets,	Perkins
874.	H.	Terrence street, east side, midway,	Matthews
875.	H.	S. E. corner State and Orleans streets,	Matthews
876.	H.	Lillian street, north side, opposite No. 17,	Chapman
877.	H.	State street, north side, midway Benton park,	Perkins
878.	H.	S. E. corner State and Walnut streets, 6″ S. con.,	Chapman
879.	H.	N. E. corner Walnut street and Charter avenue,	Perkins
880.	H.	State street, north side, opposite Woodworth ave., 6″ S. con.,	Chapman
881.	H.	State street, north side, near Olivet church,	Matthews
882.	H.	S. W. corner High street and Ingraham avenue,	Perkins
883.	H.	Union street, north side, opposite Mulberry,	Perkins

No.	High or Low.	Location.	Make.
884.	H.	Ridgewood terrace, at end of pipe,	Chapman
885.	H.	S. W. corner Walnut and Union streets,	Perkins
886.	H.	Dymon street, north side, midway,	Chapman
887.	H.	Walnut street, east side, at Oak,	Perkins
888.	H.	Pine street, east side, opposite No. 55,	Chapman
889.	H.	Pine street, east side, opposite No. 109,	Chapman
890.	H.	Madison avenue, east side, north end,	Chapman
891.	H.	Central street, at Sterns terrace, 6",	Chapman
892.	H.	S. E. corner Central and Cedar streets,	Matthews
893.	H.	Pine street, north side, opposite No. 239,	Perkins
894.	H.	N. W. corner Maple and Pine streets, 6",	Perkins
895.	H.	Maple avenue, 350 feet east of Maple street, 6",	Chapman
896.	H.	Maple st., east side, front of Mrs. S. J. Gordon's,	Matthews
897.	H.	Central street, north side, east of Maple,	Matthews
898.	H.	N. E. corner Maple street and Avon place,	Chapman
899.	H.	Avon place, north side, midway,	Chapman
900.	L.	Maple st., west side, front of No. 140, 6" S. con.,	Chapman
901.	H.	S. E. corner Maple and Mulberry streets,	Chapman
902.	H.	N. E. corner School and Mulberry streets,	Perkins
903.	H.	Ridgewood place, N. W. corner Mulberry street,	Chapman
904.	H.	Ridgewood place, S. W. corner Union street,	Chapman
905.	H.	N. E. corner Union and School streets,	Perkins
906.	H.	Union st., north side, midway School and Maple,	Chapman
907.	H.	N. E. corner Union and Maple streets,	Chapman
908.	L.	Maple street, front of No. 104, 6" S. con.,	Chapman
909.	L.	Maple street, S. W. corner Park, 6" S. con.,	Chapman
910.	H.	Maple street, west side, opposite High,	Chapman
911.	H.	High street, south side, opposite No. 36, 6" S. con.,	Chapman
912.	H.	S. W. corner Maple and Stockbridge streets,	Perkins
913.	H.	S. E. corner Maple and Temple streets,	Chapman
914.	L.	S. E. corner Maple and Temple streets, 6" S. con.,	Chapman
915.	H.	Temple street, south side, front of No. 46,	Chapman
916.	H.	S. W. corner School and Temple streets,	Chapman
917.	H.	N. E. corner High and School streets,	Perkins
918.	H.	Myrtle street, east side, midway,	Perkins
919.	H.	State street, south side, front of No. 345,	Perkins
920.	L.	State street, south side, at High school, 6" S. con.,	Chapman
921.	L.	State street, south side, at Unity church, 6" S. con.,	Chapman
922.	H.	Five Mile pond, at pumping station,	Chapman

INDIAN ORCHARD.

No.	High or Low.	Location.	Make.
1.	H.	N. E. corner Berkshire and Chestnut streets,	Perkins
2.	H.	Hampden street, S. E. corner Chestnut,	Chapman
3.	H.	S. E. corner Hampden and Myrtle streets,	Perkins
4.	H.	S. W. corner Hampden and Oak streets,	Chapman
5.	H.	S. W. corner Worcester and Oak streets,	Chapman
6.	H.	Worcester street, midway Myrtle and Oak, 6",	Chapman
7.	H.	S. W. corner Worcester and Myrtle streets,	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets,	Chapman
9.	H.	Main street, north side, west end of park,	Perkins
10.	H.	N. W. corner Main and Myrtle streets,	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6",	Chapman
12.	H.	N. E. corner Main and Oak streets,	Chapman
13.	H.	S. E. corner Water and Oak streets,	Chapman
14.	H.	Center street, north side, 320 ft. east of Oak,	Chapman
15.	H.	Center street, north side, 320 ft. west of Cedar,	Chapman
16.	H.	S. W. corner Main and Pine streets,	Perkins
17.	H.	N. W. corner Worcester and Pine streets,	Chapman
18.	H.	Worcester st., north side, 600 ft. east of Pine, 6",	Chapman
19.	H.	Main street, south side, at French church, 6",	Chapman
20.	H.	S. W. corner Water and Cedar streets,	Chapman
21.	H.	N. W. corner Main and Cedar streets,	Perkins
22.	H.	Main street, midway Cedar and Quebec,	Chapman
23.	H.	Main street, N. W. corner Quebec,	Chapman
24.	H.	Worcester street, at end of pipe,	Chapman
25.	H.	Milton street, S. E. corner Main, 6",	Chapman
26.	H.	Milton street, east side, end of pipe, 6",	Chapman
27.	H.	Beaudry street, east side, end of pipe, 6",	Chapman
28.	H.	Main street, north side, east of Beaudry, 6",	Chapman
29.	H.	Main street, near Wilbraham line,	Chapman
30.	H.	Parker street, S. W. corner Main,	Chapman
31.	H.	Second street, S. E. corner Central avenue,	Chapman
32.	H.	Parker street, west side, 1,200 ft. south of Main,	Chapman
33.	H.	Parker street, near old schoolhouse, 6",	Chapman
34.	H.	Parker street, 400 ft. north of Oak, 6",	Chapman
35.	H.	Parker street, south of railroad,	Chapman
36.	H.	Oak street, near railroad station, 6",	Chapman
37.	H.	Oak street, east side, opposite John Ferris's,	Chapman
38.	H.	Oak street, N. E. corner High,	Chapman

No.	High or Low.	Location.	Make.
39.	H.	Pasco street, N. E. corner Bay road,	Chapman
40.	H.	Oak street, east side, opposite No. 194,	Chapman
41.	H.	Oak street, west side, south of Essex,	Chapman
42.	H.	Oak street, S. W. corner Essex,	Chapman
43.	H.	Pasco street, S. E. corner Essex, 6",	Chapman
44.	H.	Pasco street, east side, end of pipe,	Chapman
45.	H.	Pine street, at Chapman Valve works,	Chapman
46.	H.	N. W. corner Hampshire and Pine streets,	Chapman
47.	H.	N. E. corner Hampshire and Oak streets,	Chapman
48.	H.	Berkshire street, north side, west of Oak,	Chapman
49.	H.	N. E. corner Berkshire and Myrtle streets,	Perkins
50.	H.	N. W. corner Hampshire and Myrtle streets,	Chapman

FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1
Bridge street, at Water,	1
Central street, opposite Beech,	1
Elm street, at First church,	1
Ferry street, at Main,	1
Hampden street, at Main,	1
Harrison avenue, at Main street,	1
Howard street, at Main,	1
Lyman street, at Dwight,	1
Main street, at Court square,	1
Main street, at Franklin,	1
Main street, near Patton,	1
Main street, at State,	1
Maple street, at Central,	1
Pine street, at Central,	1
Pynchon street, near Water,	1
State street, near Elliott,	1
Walnut street, at Hancock,	1
Water street, opposite Walker,	1
Total,	19

STREET WATERING HYDRANTS

CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

(**Belong to Street Watering Department.*)

No.	Location.	Service.
1.	Water street, S. E. corner of Worthington,	Low
2.	Cypress street, S. W. corner of Main,	High
3.	Main street, S. E. corner of Tenth,	High
4.	Fulton street, N. E. corner of Auburn,	Low
5.	North Main street, near Carew,	High
6.	*John street, N. W. corner of Plainfield,	Low
7.	Plainfield street, east side, midway Lowell and Washburn,	Low
8.	*Plainfield street, at Clayton,	Low
9.	*Hyde avenue, N. E. corner of Plainfield street,	High
10.	North Main street, east side, opposite Grace,	Low
11.	Springfield street, S. E. corner of Chestnut,	High
12.	North Main street, east side, opposite Douglas,	High
13.	Alexander street, S. E. corner of North,	Low
14.	Chestnut street, N. E. corner of Montmorenci,	Low
15.	North Main street, S. W. corner of Arch,	High
16.	*Brookline avenue, N. E. corner of North street,	Low
17.	*Grosvenor street, N. E. corner of Chestnut,	Low
18.	Everett street, N. E. corner Chestnut,	Low
19.	Carew street, south side, east of Arbor,	High
20.	Linden street, S. W. corner of Cass,	Low
21.	Chestnut street, east side, at Franklin (S.),	Low
22.	Liberty street, south side, opposite Webster,	High
23.	*Liberty street, opposite Franklin,	High
24.	Armory street, east side, south of Liberty,	High
25.	*Grover street, N. E. corner Armory,	High
26.	*Cleveland street, N. W. corner Liberty,	High
27.	*Armory street, at Warwick avenue (S.),	High
28.	Worthington street, N. E. corner of Kibbe avenue,	High
29.	Worthington street, front of house No. 725,	High
30.	Spring street, near S. E. corner of Worthington,	High
31.	Dwight street, near N. E. corner of Taylor,	High
32.	Dwight street, S. W. corner of Hillman,	High

No.	Location.	Service.
33.	Sanford street, S. W. corner of Dwight,	Low
34.	Chestnut street, west side, opposite Edwards,	High
35.	State street, N. E. corner of Byers,	High
36.	Byers street, near S. E. corner of Pearl,	High
37.	State street, S. W. corner of Federal,	High
38.	Armory street, east side, north of Grant,	High
39.	Magazine street, west side, south of Armory,	High
40.	St. James avenue, N. E. corner of Magazine,	High
41.	*Florida street, S. E. corner of Worthington,	High
42.	Thompson street, N. E. corner of St. James avenue,	High
43.	Worthington street, S. E. corner of Clarendon,	High
44.	*Cornell street, at Harvard (S.),	High
45.	St. James avenue, north of Princeton street,	High
46.	*Yale street, S. W. corner of Monmouth,	High
47.	Amherst street, N. E. corner of Princeton,	High
48.	Bay street, N. W. corner of Buckingham place,	High
49.	*McKnight street, at No. 12,	High
50.	Bay street, S. W. corner of Marion,	High
51.	Cambridge street, S. E. corner of Bay,	High
52.	Andrew street, west side, opposite Dawes,	High
53.	State street, N. E. corner Mapledell,	High
54.	State street, N. E. corner Willard avenue,	High
55.	Wilbraham road, nearly opposite Northampton avenue,	High
56.	Northampton avenue, N. W. corner of Gunn square,	High
57.	Wilbraham road, at engine house,	High
58.	Monroe street, N. W. corner of Eastern avenue,	High
59.	Hancock street, at State (S.),	High
60.	Quincy street, near N. E. corner of Hancock,	High
61.	King street, N. W. corner of Hancock,	High
62.	Eastern avenue, S. W. corner of King street,	High
63.	Eastern avenue, N. W. corner of Alden street,	High
64.	Walnut street, N. W. corner of Florence,	High
65.	Alden street, S. E. corner of Hancock,	High
66.	Walnut street, east side, south of Queen,	High
67.	Pine street, south of cemetery gate,	High
68.	Oak street, east side, near Walnut,	High
69.	*Mulberry street, east side, near Union,	High
70.	Mulberry street, at Ridgewood place,	High
71.	*Union street, north side, near Maple,	High
72.	Maple street, S. E. corner of Central,	High

No.	Location.	Service.
73.	Pine street, N. W. corner of Central,	High
74.	Pine street, N. E. corner of Maple,	High
75.	Central street, N. W. corner of Spruce,	High
76.	Allen street, at Mill,	High
77.	Allen street, at No. 161,	High
78.	White street, opposite No. 50,	High
79.	White street, N. W. corner of Orange,	High
80.	Highland street, N. W. corner of Orange,	High
81.	Dickinson street, S. E. corner of Oakland,	High
82.	*Dickinson street, opposite Keith,	High
83.	Belmont avenue, at top of hill,	High
84.	Belmont avenue, N. E. corner of Euclid,	High
85.	Belmont avenue, N. E. corner of Oakland street,	High
86.	*Dickinson street, between Wilmont and Alderman,	High
87.	Sumner avenue, S. W. corner of Forest,	High
88.	*Sumner avenue, east of Ormond street,	High
89.	*Sumner avenue, east of Lyndale street,	High
90.	*Sumner avenue, east of Street Railway car barn,	High
91.	Sumner avenue, at Forest Park,	High
92.	Garfield street, at Greenleaf (W.),	High
93.	Sumner avenue, near Hawthorn place,	High
94.	*Maplewood terrace, near Crescent,	High
95.	Magnolia terrace, near house No. 77,	High
96.	Sumner avenue, S. E. corner of Beechwood,	High
97.	Sumner avenue, at cemetery,	High
98.	Fort Pleasant avenue, near Crescent terrace,	High
99.	Mill street, S. E. corner of Locust,	High
100.	Pine street, at Mill,	High
101.	South street, at Mill river,	High
102.	Main street, at Locust,	High
103.	*Norwood street, N. E. corner of Hanover,	Low
104.	Loring street, N. E. corner of Water,	High
105.	Adams street, N. E. corner of Main,	Low
106.	*William street, N. E. corner of Main,	High
107.	Willow street, S. E. corner of Park,	High
108.	Howard street, S. W. corner of Water,	Low
109.	Water street, east side, south of Court,	Low

INDIAN ORCHARD.

(**Belongs to Street Watering Department.*)

No.	Location.	Service.
1.	*Hampden street, near Chestnut,	High
2.	Myrtle street, S. E. corner Hampshire,	High
3.	Hampshire street, S. W. corner Oak,	High
4.	Oak street, near old Bay road,	High
5.	Worcester street, S. W. corner of Oak,	High
6.	Worcester street, near No. 236,	High
7.	Cedar street, east side, near Main,	High
8.	Main street, S. E. corner Myrtle,	High

Track Hydrants—For Car Sprinklers.

(*All belong to Street Watering Department.*)

No.	Location.	Service.
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street, at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street, at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catharine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	Central street, at top of hill,	High
14.	King street, near Eastern avenue,	High
15.	Mill street, opposite Lincoln hall,	High
16.	Sumner avenue, opposite car barn,	High
17.	Fort Pleasant avenue, at Crescent terrace,	High
18.	Main street, at Norwood,	Low
19.	Maple street, at Park,	High
20.	Elm street, at Court square,	High

WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Bradford street, at Plainfield,	1	
Court street, at Court square,	1	
Liberty street, at Armory,	1	
Main street, at Court square ("Wesson" drinking fountain),	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Water Shops,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State st., at Winchester park ("Willard" drinking fountain),	1	
State street, at Berkshire, opposite Catholic cemetery,	1	
Sumner avenue, at Beechwood,	1	
Water street, at Court,	1	
Worthington street, at Stearns park,	1	
Total,		14

PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,...	1
Calhoun park, Chestnut street, between Calhoun street and Jefferson avenue (pond; no fountain),.....	1
Clarendon park, Clarendon street, at Bay,.....	1
Concord terrace park, Concord terrace,.....	1
Dartmouth park, Dartmouth street, at Bay,.....	1
Floral park, Spruceland avenue, at Florentine gardens,.....	1
Forest park, Sumner avenue (no fountain),.....	1
Garfield triangle, Garfield street, between Fairfield and Greenleaf, ...	1
Kibbe park, Federal street, at Armory,.....	1
Magnolia terrace park, Magnolia terrace (two fountains),...	1
McKnight park, Buckingham street, at Bay,.....	1
Mill street park, Mill street, at Pine,.....	1
Stearns park, between Bridge and Worthington streets,.....	1
Thompson park, St. James avenue, at Worthington street,....	1
Westford circle, Westford avenue,.....	1
Winchester park, State street, at Wilbraham road (park, only; —no fountain besides drinking fountain, classified elsewhere), ...	1
Total parks, ...	16

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